

## F-35 Production a Step Closer after Wind Tunnel Test

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3/6/2007 - **ARNOLD AIR FORCE BASE, Tenn. (AFNEWS)** -- Arnold Engineering Development Center workers completed the last developmental wind tunnel test in February for all Joint Strike Fighter variants, helping put the F-35 Lightning II a step closer to manufacturing.

It was the culmination of more than 8,600 hours and \$50 million worth of wind tunnel testing of the Joint Strike Fighter over the past five years, said 1st Lt. Ezra Caplan, the AEDC Air Force project manager.

"This aerodynamics test was the final entry in that series and marks a significant achievement for AEDC," Lieutenant Caplan said.

This test added new critical data for the Navy variant of the F-35, said Randy Hobbs, Aerospace Testing Alliance project engineer.

"This particular test was about filling in the blanks other testing facilities hadn't obtained yet at the higher-end Mach numbers," he said. "The results from this test will go into the JSF program's aerodynamic database and complement the ground testing that will follow at Marietta, Georgia."

Marc Skelley, an Air Force project manager at the center, said testing done at AEDC and in Marietta is a collaborative effort.

"Our efforts are complementary and Lockheed Martin uses data taken at AEDC and from other facilities to complete the JSF aero database," he said. "Lockheed Martin has a large, low-speed wind tunnel in Marietta where they do stability and control testing at low speeds and with the landing gear down. Usually whatever test we did here was either preceded or followed by an entry down in Marietta."

Lieutenant Caplan said continuous improvements in testing methods and technology have resulted in significant reductions in cost and time.

"One of the benefits of testing here is that we're able to provide the data at near real time to the customer on site," he said. "This reduces the number of model configuration changes that would have been necessary in the past to get the quality of data they would need before pressing on with the test."

AEDC workers have tested the JSF in the center's wind tunnels and jet engine test cells for several years. The current multi-year test regimen for the aircraft's Pratt & Whitney F135 jet engine is a \$200-million program.



First Lt. Ezra Caplan and Charlie Smith examine a 12-percent scale model of the Navy variant of the F-35 Lightning II joint strike fighter during a break in the final pre-production aerodynamics testing done on all F-35 variants at Arnold Engineering Development Center, Arnold Air Force Base, Tenn. Lieutenant Caplan is the AEDC Air Force project manager and Mr. Smith is the Aerospace Testing Alliance senior project engineer. (U.S. Air Force photo/Rick Goodfriend)



The center's role in supporting the JSF program dates back to 1997 when competing engine configurations were tested in propulsion test cells here. Aerodynamic and propulsion integration testing on the JSF began the same year when the two competing prototype aircraft, the X-35 and X-32, were tested at AEDC.

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