F-22 Program Successfully Surpasses Another Major Milestone As Industry Team Concludes Ground-Based, Full-Scale Static Testing

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The Lockheed Martin Aeronautics Co. led F-22 industry team has successfully completed all planned static testing of the F-22, demonstrating that the structural integrity of the airframe can withstand forces 50 percent higher than those expected in service life.

Lockheed Martin Aeronautics Co. is a business area of Lockheed Martin Corp.

This milestone completes almost three years of full-scale static testing on Raptor 3999 -- one of two non-flying F-22 airframes located at Lockheed Martin Aeronautics' facility in Marietta, Ga.

"The unprecedented success of this static testing is testament to the sophisticated tools and talents of the dedicated engineers who designed the F-22," said Bob Rearden, Lockheed Martin Aeronautics Co. vice president and F-22 program general manager. "Successfully completing these tests gives the Air Force great confidence that the F-22 will meet or exceed all expectations for structural integrity."

Since 1999, Raptor 3999's airframe has been subjected to loads applied by numerous hydraulic rams designed to simulate forces the aircraft actually encounters during flight. This testing is done primarily to demonstrate the structural integrity of the airframe.

During any given test, as many as 3,600 individual sensors relay aircraft structural information every 250 milliseconds to the engineers who are monitoring the tests in real-time at F-22 facilities in Seattle, Wash., Fort Worth, Texas, and Marietta, Ga. The forces applied are 50 percent higher than are ever expected in service. This provides the government-mandated safety factor.

Unlike many fighters designed in the past, the F-22 fly-by-wire flight control system is optimized for maximum performance for all points in the sky. This required many more test cases to be run to ensure all corners of the flight envelope were tested.

The F-22 Raptor air dominance fighter is built by Lockheed Martin Aeronautics Co. in partnership with Boeing. The Raptor is powered by Pratt and Whitney engines, and is made from parts and subsystems provided by approximately 1,200 subcontractors and suppliers in 46 states. Primary production activities take place at Lockheed Martin Aeronautics facilities in Marietta and Fort Worth as well as at Boeing's plant in Seattle. Final assembly and initial flight-testing of the Raptor occurs at the Marietta factory, headquarters for the F-22 contractor team.

The Raptor will replace the venerable F-15 Eagle as America's premier front-line fighter jet starting in 2005. The F-22's balanced design of stealth, supercruise speed, and super-agility, along with its advanced integrated avionics and overall user-friendliness, will allow the F-22 to help shorten future wars and save American and allied lives.

Lockheed Martin Aeronautics Co., headquartered in Fort Worth, Texas, is a leader in the design, development, systems integration, production, and support of advanced military aircraft and related technologies. Its customers include the military services of the United States and allied countries throughout the world. Products include the F-22, F-16, Joint Strike Fighter, F-117, C-5, C-27J, C-130, P-3, and U-2.

Headquartered in Bethesda, Md., Lockheed Martin Corp. is a global enterprise principally engaged in the research, design, development, manufacture, and integration of advanced technology systems, products, and services. Employing approximately 125,000 people worldwide, Lockheed Martin had 2001 sales of $24 billion.

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