



Northrop Grumman Expands Composites Manufacturing Training for Major Turkish F-35 Supplier

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Hands-on training helps Turkish Aerospace Industries prepare for its role as a second source supplier for jet's center fuselage

EL SEGUNDO, Calif., March 9, 2010 /PRNewswire via COMTEX/ -- Northrop Grumman Corporation (NYSE: NOC) is adding momentum to Turkish Aerospace Industries, Inc.'s (TAI) readiness to build complete center fuselages for the F-35 Lightning II aircraft by teaching its engineers how to build the complex composite structures used in the jet.

Photos accompanying this release are available at <http://media.globenewswire.com/noc/>.

From Jan. 18 to Feb. 12, the company conducted rigorous classroom and hands-on training at its Advanced Composites Center in El Segundo for more than a dozen engineers and manufacturing specialists from TAI. The training was the third in a planned series of classes designed to teach TAI employees, ultimately, how to build a complete F-35 center fuselage.

"To date, TAI has made great progress in learning the tools and techniques of composites manufacturing," said Mark Tucker, vice president and F-35 program manager for Northrop Grumman's Aerospace Systems sector. "The recent training helped solidify their understanding of how to successfully produce and handle the actual composite inlet ducts used in the F-35."

TAI is a second source supplier of F-35 center fuselages to Northrop Grumman, a principal member of the Lockheed Martin-led F-35 industry team. The Turkish company is slated to produce 400 center fuselages for the program beginning in the low rate initial production phases.

Guided by Northrop Grumman F-35 subject matter experts, the training engaged the TAI employees actively in the production of forward and aft inlet ducts for the jet. It included learning how to use the complex fiber placement mandrels that define the shape of the ducts; operating the machines that perform the actual fiber placement process; preparing the ducts for curing; performing post cure processing; and machining and conducting a final inspection of the completed parts.

According to Tucker, one of the parts that the TAI team helped produce - a forward inlet duct - will be integrated into one of the first major structural assemblies to be produced at TAI's new F-35 assembly facilities in Ankara, Turkey later this year.

For Turker Dolek, a senior member of the TAI group, the benefits of the training extended far beyond simply refining and maturing their F-35 composite manufacturing skills.

"What we are also learning from Northrop Grumman is how to handle and manage manufacturing problems," explains Dolek. "We're very impressed that the company is encouraging all of its suppliers to bring their best effort to the program. All of the Northrop Grumman employees on the program are doing their best. We're very honored to be part of this project."

The TAI training is part of Northrop Grumman's on-going commitment to help expand international participation in the F-35 program, build a reliable global supply chain, and help Lockheed Martin transition the program successfully from its current system development and demonstration phase into the LRIP and full-rate production phases.

Northrop Grumman is responsible for designing and producing the center fuselage for all three variants of the F-35. The company also designed and produces the aircraft's radar and other key avionics including electro-optical and communications subsystems; develops mission systems and mission-planning software; leads the team's development of pilot and maintenance training system courseware; and manages the team's use, support and maintenance of low-observable technologies.

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