



## Air Force Officials Take Step Toward Cleaner Fuel, Energy Independence

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EGLIN AIR FORCE BASE, Fla. -- Air Force officials, embracing the national priorities of cleaner fuel and energy independence, took a step toward a greener, energy independent future when an A-10C Thunderbolt II here took to the air March 25 fueled with a blend of Hydrotreated Renewable Jet, or HRJ, and JP-8.

This first-ever feasibility flight demonstration was using HRJ, a hydrocarbon synthetic jet fuel, created from animal fats and plant oils. The flight was conducted by members of the 40th Flight Test Squadron, a developmental test squadron that is part of the Air Armament Center here.

"The Air Force is committed to reducing our reliance on foreign oil," said Terry Yonkers, assistant secretary of the Air Force for installations, environment and logistics. "Our goal is to reduce demand, increase supply and change the culture and mindset of our fuel consumption."

Although mission data has yet to be analyzed, just by leaving the ground the demonstration was considered a success. It proved an Air Force aircraft can be flown using a synthetic fuel blend.

A big indicator came from the test pilot, Maj. Chris Seager, after the flight. Immediately upon stepping out of the aircraft, he approached the fuel certification officials saying the flight "felt great, no problems whatsoever."

"This sortie was pretty uneventful and predictable ... that's a good thing," said the test pilot, who focused on monitoring his gauges and engine performance during the flight. "It was a real privilege to be part of this ground-breaking demonstration."

After hearing from the pilot, the certification officials, who traveled here from Wright-Patterson Air Force Base, Ohio, breathed a little easier but had no doubts about the demonstration and its potential.

"We weren't concerned at all about the flight," said Jeffrey Braun, director of the Alternative Fuels Certification Office. "We knew it would take off, and we're thrilled this project is moving forward."

The fuel used for the demonstration was from the camelina plant, a weed-like plant that needs little to flourish and isn't used as a food-source. The refining process as well as the emissions of the HRJ fuel is cleaner than conventional fuels, according to Alternative Fuels Certification officials.

The Air Force is the largest user of jet fuel in DoD, consuming 2.4 billion gallons per year. The goal is to switch half of the continental U.S. jet fuel requirement to alternative fuels by 2016. A short-term goal is to have all Air Force aircraft certified to fly using alternative fuels by 2012, according to Mr. Yonkers.

The 40 FTS's two-month build up to the pioneering flight was focused on safety and risk mitigation. The week of the flight, ground tests were performed and the A-10 flew with the fuels split into its two separate fuel tanks.

The A-10 has the ability to segregate its fuel system so one set of fuel tanks can be paired to one engine while the other set can be paired to the other engine without mixing fuel between systems. This makes the A-10 a perfect platform to begin testing fuel blends, according to Capt. Andrew Radzicki, a test engineer with the 40 FTS.



**An A-10C Thunderbolt II from Eglin Air Force Base, Fla., flies along the coast of Florida March 25, 2010, during the first flight of an aircraft powered solely by a biomass-derived jet fuel blend. The A-10 was fueled with a 50/50 blend of Hydrotreated Renewable Jet and JP-8. (U.S. Air Force photo/Senior Master Sgt. Joy Josephson)**



"To truly transform our economy, protect our security, and save our planet from the ravages of climate change, we need to ultimately make clean, renewable energy the profitable kind of energy," said President Barack Obama.

The Air Force plans for a second feasibility demonstration this summer using an F-15 Eagle to test performance parameters. A C-17 Globemaster III will be tested because of the amount of fuel it consumes, and an F-22 Raptor test is planned because of the aircraft's complexity. The latter two tests are scheduled to occur later this year.

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