

# T-50 Trainer Begins High Angle-Of-Attack Flight Testing

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The Republic of Korea Air Force (ROKAF) recently began high angle-of-attack (AOA) flight testing on the T-50 Golden Eagle, a supersonic jet trainer being developed by Korea Aerospace Industries (KAI) with technical assistance from Lockheed Martin .

"It is imperative that we build an advanced jet trainer that is safe for our student pilots to fly," said Lt. Col. Lee, Choong-Whan, the senior ROKAF T-50 test pilot. "Although the design engineers have excellent design tools and simulation capabilities, our job in the test force is to wring the aircraft out, looking for any anomalies. It is important that we fully understand the high AOA characteristics of this aircraft before it is placed in the training command."

The initial high AOA flight testing will use the basic air-to-air loadings and include planned departures from controlled flight. These departures result from climbing the aircraft at low power setting until it runs out of airspeed with the pilot applying aggressive control inputs. Once the aircraft is departed, recoverability will be tested. These maneuvers will demonstrate the ability to recover to normal flight within all operational weights and possible centers of gravity of the airplane.

The T-50 has an advanced digital electronic flight control system that is designed to be highly departure-free during normal operations and aids in recovery from any out-of-control situation. The AOA limiter in the flight control system is set at 25 degrees AOA. High angle-of-attack testing is needed to verify predicted AOA stall and departure limits, aircraft departure characteristics when these limits are exceeded, and the flight control system's effectiveness in both prevention and recovery of departures from controlled flight.

Testing will be conducted at the Korean flight test facility at Sachon Air Base, Republic of Korea, using the second of four test aircraft. As a safety measure, an external spin recovery parachute assembly has been mounted on the aircraft for use in the event the aircraft cannot be recovered normally.

Approximately 47 flights over a four-month period will be required to complete this phase of testing. Full training loadings and air-to-surface loadings will be tested in subsequent series of high AOA testing.

The T-50 flight test program continues to progress satisfactorily and recently surpassed 400 sorties. The first flight test aircraft has completed more than 200 sorties.

## BACKGROUND INFORMATION

The T-50 is the only supersonic trainer in development or production. It has the performance, handling qualities, cockpit and advanced systems necessary to train pilots to fly both today's advanced fighters and the next- generation of combat aircraft.

The T-50 Golden Eagle is being developed by KAI for the Republic of Korea Air Force (ROKAF). Lockheed Martin is providing technical expertise for the FSD program and is responsible for developing the T-50 avionics system, flight control system and wings. The program entered the transition-to-production phase with initial contract from the ROKAF awarded to KAI in December 2003. The first KAI production aircraft is expected to be delivered in late 2005.

Korea Aerospace Industries Ltd. is the Republic of Korea's national aerospace company, established in 1999 with the consolidation of Samsung Aerospace, Daewoo Heavy Industries and Hyundai Space and Aircraft Co. KAI lines of business include fixed-wing aircraft, helicopter aircraft and satellites. Its major products are the KF-16, KT-1 basic trainer, T-50, SB427 helicopters, UAVs, aerostructures and KOMPSAT satellite program.

Lockheed Martin Aeronautics Co., a business area of Lockheed Martin, is a leader in the design, research and 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-16, F/A-22, F-35 JSF, F-117, C-5, C-130, C-130J, P-3, S-3 and U-2. The company produces major components for the F-2 fighter, and is a co-developer of the C-27J tactical transport and T-50 advanced jet trainer.

Headquartered in Bethesda, Md., Lockheed Martin Corp. employs about 130,000 people worldwide and is principally engaged in the research, design, development, manufacture and integration of advanced technology systems, products and services. The corporation reported 2003 sales of \$31.8 billion.

PHOTO: A high-resolution photo will be available after 2:00 p.m. central time at the following Web Site: <http://www.lmaeronautics.com/>

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