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NASA TO FLIGHT TEST EXPERIMENTAL PIVOT-WING AIRCRAFT

NASA's Dryden Flight Research Center, Edwards, Calif., has awarded a $218,000 fixed-price contract to the Ames Industrial Corp., Bohemia, N.Y., for the development and fabrication of a small, lightweight, manned, oblique-wing aircraft.

Because the pivoting oblique wing concept is a significant departure from conventional aircraft design, NASA is initiating this low-cost exploratory program to study the fundamental aspects of piloting an oblique-wing aircraft.

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At lower flight speeds, the wing is oriented perpendicular to the fuselage, providing efficient, quiet operation for takeoff and landing as well as for low speed cruise flight. The concept offers good low-speed stability and control characteristics and does not require complex high-lift systems. The engine thrust required for takeoff is substantially reduced, which could result in quieter operations during takeoff and landing.

For high-speed flights, the wing is pivoted fore and aft to form oblique angles up to 60 degrees with the aircraft's fuselage. Studies indicate that this "scissor-wing" concept would permit better high-speed flight performance.

As the aircraft flies faster, pivoting the wing to an oblique angle decreases air drag, permitting increased speed and longer range for the same fuel expenditure.

Analytical and wind tunnel studies conducted by NASA's Ames Research Center, Mountain View, Calif., indicate that a future oblique-wing transport aircraft flying at 1,000 miles per hour might achieve twice the fuel economy of either the current British-French Concorde or the Russian SST. These studies also indicate that the new concept would help alleviate the sonic boom problem.

Under terms of the contract, NASA will provide the contractor with a design and Ames Industrial will construct the aircraft of foam and fiberglass. Called the AD-1 (NASA Ames-Dryden-1), the aircraft will be approximately 12 meters (40 feet) long with a wingspan of 10 m (32 ft.). Powered by two small 90-kilogram (200-pound) thrust turbojet engines, the AD-1 will have a gross weight of approximately 816 kg (1,800 lb.).

Delivery of the aircraft to Dryden Center is expected in late 1978 and the first flights are planned for early 1979.

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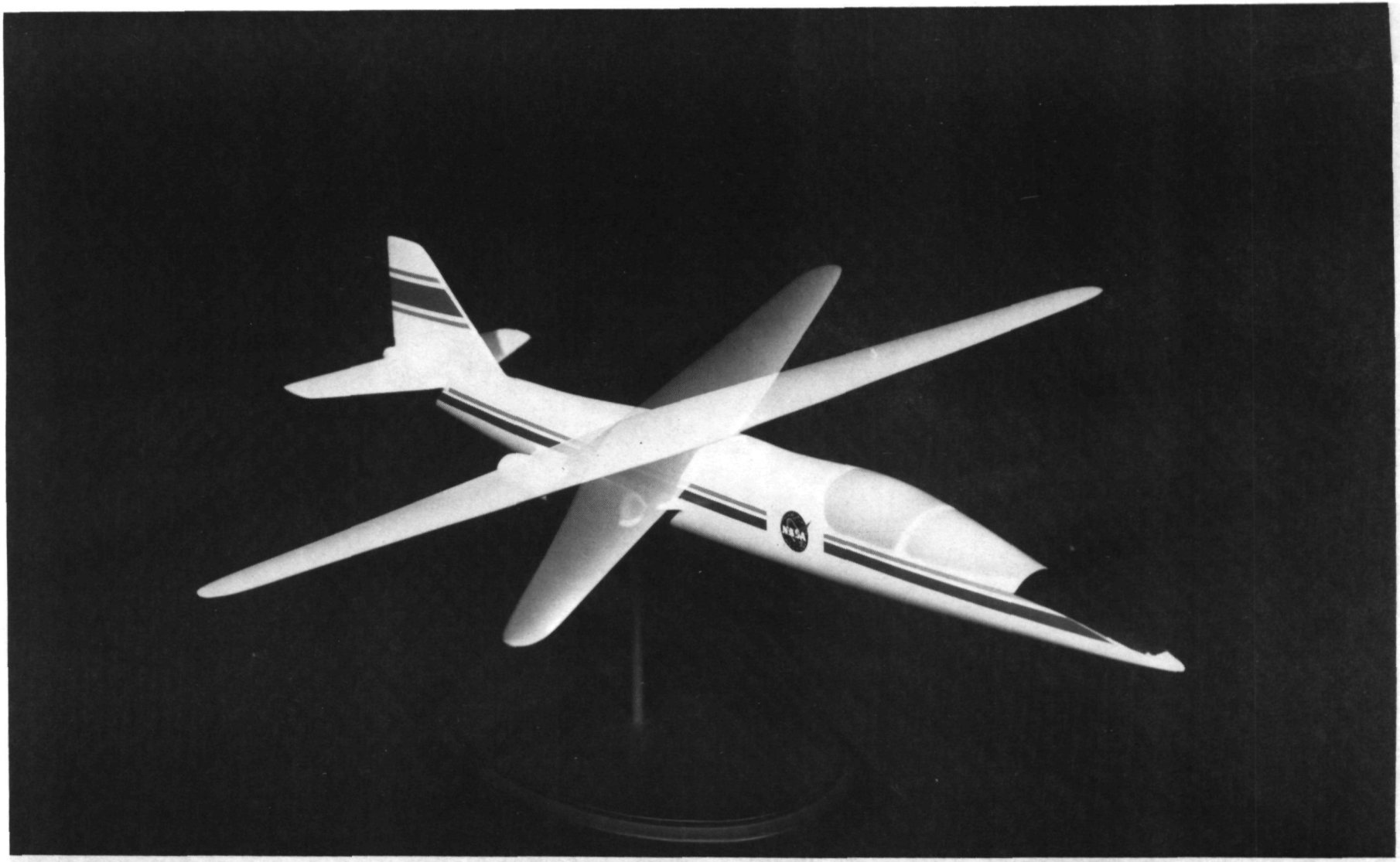

A new aircraft which will be capable of pivoting its wing inflight will be flight tested by NASA's Dryden Flight Research Center, Edwards, Calif. For low-speed operations, the wing is placed perpendicular to the fuselage. At the higher speeds, the wing is pivoted fore and aft up to angles of 60 degrees. As the aircraft flies faster, pivoting the wing decreases drag permitting increased speed and longer range for the same fuel consumption.

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