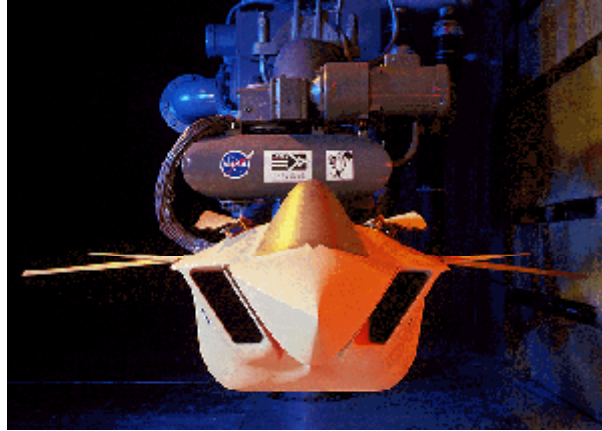


# Advanced Short Takeoff and Vertical Landing (ASTOVL) Concepts Tested



*Front view of ASTOVL model.*

In this cooperative program between NASA, Lockheed Corporation, and the Advanced Research and Projects Agency (ARPA), an advanced short takeoff and vertical landing (ASTOVL) model was tested in the 9- by 15-Foot Low-Speed Wind Tunnel at the NASA Lewis Research Center. The 10-percent scaled model was tested over a range of headwind velocities from 25 to 120 kn. This inlet/forebody test was a key part of an important Department of Defense program investigation enabling technologies for future high-performance ASTOVL aircraft.

The Lockheed concept is focused on a shaft-coupled lift fan system centered around Pratt & Whitney's F119 power plant. As envisioned, a conventional takeoff and landing version (CTOL) would replace the U.S. Air Force's F-16's. The ASTOVL version would eventually replace Marine and, possibly, British Harrier aircraft. The ASTOVL and CTOL versions are scheduled to begin their manufacturing development phases in 2000.

The purpose of this test was to acquire data pertinent to the inlet-forebody model. The test was very successful. Both steady-state and dynamic data were obtained. This small-scale testing, which is directed at reducing risks, may greatly reduce the risks on a full-scale aircraft.