

American Dynamics AD-150

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The **AD-150** is a high-speed VTOL unmanned aerial vehicle that is being developed by American Dynamics Flight Systems as a future competitor for the United States Marine Corps' Tier III VUAS program as well as other current and future United States VTOL UAV programs.^[1]

Development

The AD-150 program began in response to continued interest in maritime capable VTOL UAVs by the United States Department of Defense.

The AD-150 utilizes two wing-tip mounted High Torque Aerial Lift (HTAL) lift and propulsion systems to provide the thrust needed to sustain and transition between hover and forward flight. The two HTAL systems are driven by a single Pratt & Whitney Canada PW200 Turboshaft engine.^[2]

The vehicle's propulsion configuration is similar to the Doak VZ-4 in that the 2 propulsion systems are able to tilt from vertical to horizontal mode in order to achieve high-speed forward flight. Unlike the Doak VZ-4, however, the propulsion systems in the AD-150 are also able to pivot longitudinally.

A full-scale model of the AD-150 was displayed for the first time at the Association for Unmanned Vehicle Systems International's (AUVSI) Unmanned Systems North America exhibition in Washington D.C. on August 7, 2007.^[1]

In February 2010, the University of Maryland's Industrial Partnerships program approved \$135,150 in funding to test a scale model of the company's patented High Torque Aerial Lift (HTAL) system in a tunnel at the university. They will utilize a 1/3-1/2 scale model that will be tested at different fan and tunnel speeds and duct angles to represent the transition between vertical and horizontal flight.^[3]

Specifications (as designed)

General characteristics

- **Crew:** None
- **Length:** 14 ft 6 in (4.42 m)
- **Wingspan:** 17 ft 6 in (5.34 m)
- **Height:** 4 ft 9 in (1.49 m)
- **Gross weight:** 2,250 lb (1,020 kg)
- **Powerplant:** 1 × Pratt & Whitney Canada PW200, 750 hp (560 kW)



Performance

- **Maximum speed:** 345 mph (556 km/h)
- **Endurance:** 4 hours
- **Service ceiling:** 20,000 ft (6,100 m)

See also

Related lists

- List of unmanned aerial vehicles

References

- ↑ ***^a ^b*** "American Dynamics plans next generation BattleHog unmanned air vehicle" (http://www.flightglobal.com/articles/2007/08/09/215973/pictures-american-dynamics-plans-next-generation-battlehog-unmanned-air-vehicle.html) . Flight International, 09/08/2007.
- ↑ AD-150 Data Sheet (http://adflightsystems.com/public/documents/AD-150.pdf) . American Dynamics Flight Systems
- ↑ Maryland Funds Work On VTOL Unmanned Aircraft (http://www.aviationweek.com/aw/generic/story_channel.jsp?channel=defense&id=news/asd/2010/02/11/02.xml&headline=Maryland%20Funds%20Work%20On%20VTOL%20Unmanned%20Aircraft)

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Illustration of AD-150 in flight



AD-150 on display at AUVSI North America 2007