



News Release

Defense Advanced Research Projects Agency

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IMMEDIATE RELEASE

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SECOND UNMANNED COMBAT AIR VEHICLE COMPLETES FIRST FLIGHT

The second X-45A Unmanned Combat Air Vehicle technology demonstrator completed its first flight November 21. The flight comes six months after the first flight of the first X-45A vehicle, which occurred on May 22.

After taking off from the dry lakebed at NASA's Dryden Flight Research Center at Edwards Air Force Base in California, the second X-45A vehicle flew for 29 minutes and reached an airspeed of 195 knots and altitude of 7,500 feet. This flight test validated the functionality of the UCAV flight software on the second air vehicle and demonstrated that there are essentially no differences in the operation of the two vehicles.

The first X-45A vehicle has completed a total of five flights to date, with three flights executed in October. These flights continued to expand the flight envelope and validated several contingency management routines. Approximately 60 percent of the air worthiness test objectives have been completed.

In October 2002, the program also successfully demonstrated a distributed, multi-vehicle control capability for the UCAV Mission Control Segment (MCS) in the Boeing Simulation Integration Laboratory in Seattle, Wash.

The MCS software (Build 2.0) is the first release of an extensive Block 2 capability that will provide multi-vehicle control, satellite communication, and dynamic mission planning. Build 2.0 of the MCS software enables a single operator to control more than one air vehicle in support of fixed target strikes and Suppression of Enemy Air Defense (SEAD) missions. Allowing a single operator to control multiple vehicles reduces the manning requirements and minimizes the logistics footprint for operating the UCAV system.

Maj. Mark Garner of the Air Force Research Laboratory's Air Vehicles Directorate and the UCAV MCS Lead, operated the demonstration. Major Garner explained, "I've piloted numerous manned aircraft throughout my Air Force career and this current build of the UCAV MCS capability provided an interface that made the control of multiple vehicles easier than I had thought was possible."

Marc Pitarys of the Air Force Research Laboratory's Information Directorate serves as the UCAV Technical Director and commented, "Our approach involves integrating unmanned

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air vehicles with command and control information to provide human operators with the situational awareness and decision-making resources necessary for destroying targets. The future UCAV system will allow operators who are far removed from enemy threats to achieve effects in the battlespace through a ‘point-click-kill’ capability.”

The MCS software that was demonstrated will be enhanced and integrated with the air vehicle and support segment software in preparation of multi-vehicle flight-testing, which will begin in 2003. After the X-45A flight worthiness tests are completed, the maturing test process will involve flying the two X-45A UCAV demonstrators in formation, conducting multi-vehicle cooperative actions, simulating the targeting of a threat system and dropping ordnance against that system. This end-to-end demonstration (using the Block 2 software) is expected to be completed by late summer 2003.

“The fact that we have now demonstrated both the hardware and the basic software for the key demonstrations that are the heart of the UCAV program – multi-vehicle cooperative operations – shows that we are well on our way to demonstrating the technical feasibility of the UCAV system,” said Col. Earl Wyatt, USAF, DARPA’s UCAV program manager.

The program is also designing and building two more operationally representative, robust prototypes that will demonstrate the military utility and operational value of the UCAV system.

The DARPA/U.S. Air Force/Boeing Unmanned Combat Air Vehicle represents a revolutionary new weapon system that can significantly increase the effectiveness and flexibly available to military commanders while lowering the overall cost of combat operations.

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Media with questions, please contact Jan Walker, (703) 696-2404, or jwalker@darpa.mil. Photos of the flight are available on the web at www.darpa.mil/ucav .