Osprey Flies West for High-Altitude Tests

Bell/Boeing V-22 number 8, one of the four Engineering and Manufacturing Development (EMD) aircraft currently undergoing developmental testing by the US Marine Corps, arrived Sept. 17 at Libby Army Air Field, Fort Huachuca, Ariz., and began a series of high-altitude tests. The V-22 was flown from its test facility at the Naval Air Warfare Center Aircraft Division here and will conduct about 35 hours of testing from the air field through Oct. 16.

Flying at 250 knots true airspeed at altitudes up to 16,500 ft., the 1,880-mile journey to Ft. Huachuca was the longest distance any V-22 has flown in one day. Developmental test pilots USMC Maj. Chris Seymour and Bell Boeing test pilots Marty Shubert, Bill Leonard and Bill Norton made the cross-country flights. The V-22 and its B-200 King Air escort plane made one of its two refueling stops at the Amarillo airport near the site of Bell-Textron's recently announced Tiltrotor Technology Center for V-22 final assembly and flight operations. The airplane was greeted in Amarillo, Tx., by residents and news media representatives who gathered to get a first-hand look at the Osprey.

Ft. Huachuca was selected for the high-altitude tests because of its desert climate, quiet environment, and flat terrain. These factors and its airfield, which is 4,600 feet above sea level, make it an ideal site to test how efficiently the engines and rotors work at high-density altitudes, according to program officials. During the month of testing, a cadre of about 70 government and contractor personnel from the Naval Air Warfare Center's V-22 Integrated Test Team will be conducting several envelope expansion tests. They will focus on testing the aircraft's hover performance in a high-density altitude environment.

For these tests, the V-22, while in the hover mode, will pull against a cable attached to a 20,000-pound block which is buried and cemented in the ground. Engineers will be able to measure, through instrumentation, the strain on the cable and determine how much power the aircraft is producing when it pulls to its limits. The testing to the limits of the aircraft's engines and rotors will demonstrate that the V-22 can meet its required specifications. "These tests are going well and the V-22 is performing to expectations," explained Seymour.

Two other flight test profiles are scheduled while at Ft. Huachuca. The first will analyze the aircraft's acoustics/noise levels through an array of microphone sensors installed on the ground. During a series of flying patterns, these sensors will record noise levels at prescribed altitudes and distances from the array. The second series of tests, called Critical Azimuth, will analyze how fast the aircraft can fly sideways or backward at high-density altitudes. To date, the V-22 flight test program has accumulated more than 1,950 hours in about 1,350 flights. The EMD aircraft have logged about 770 flight hours.

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