

EXECUTIVE SUMMARY

AIRCRAFT ACCIDENT INVESTIGATION MQ-1B, T/N 00-3068, CREECH AIR FORCE BASE, NEVADA 28 APRIL 2009

On 28 April 2009, at 0804:49 local (L) time, the mishap remotely piloted aircraft (MRPA), a MQ-1B Predator, tail number 06-3068, crashed 1 ½ miles west of Creech Air Force Base, Nevada, approximately 1 ½ minutes after takeoff. The crash site was uneven desert terrain with scrub brush. The MRPA's structure and mechanical components were damaged as a result of the mishap. The estimated cost of repair is \$543,178.30. This includes replacement cost for the engine and training hellfire missile and repair cost for the multi-spectral targeting system (MTS-A) and other structural damage. There were no injuries and there was no damage to other government or private property.

After normal maintenance and pre-flight checks, the MRPA taxied and departed at 0803:22L. Approximately 1 minute into the flight, the MRPA's engine began to oscillate. The MRPA was travelling at a speed of 74 knots indicated airspeed and at an estimated altitude of 240 feet above ground level. As the engine speed oscillated between 5633 and 1145 revolutions per minute, the MRPA quickly approached stall speed and began to descend at a high rate. The MRPA impacted the ground 29 seconds after the first engine oscillation. The MRPA rolled across uneven desert terrain with scrub brush for 4 seconds. Its landing gear then collapsed, causing it to spin before coming to rest 6 seconds after initial impact.

The Accident Investigation Board (AIB) President determined by clear and convincing evidence that the cause of the mishap was the failure of the Manifold Absolute Pressure (MAP) reference vacuum line that became disconnected at a "T" fitting. The AIB President determined that the installation of the vacuum line was in accordance with Air Force technical orders (T.O.). The T.O.s did not provide guidance on length or routing of the vacuum lines. However, the vacuum line attached to the plenum was cut too short based upon the location of the "T" fitting, which put extra tension on the carburetor vacuum lines. The extra tension caused the plenum vacuum line to work itself loose from the "T" fitting. At 0804:20L the vacuum line disconnected in flight. This resulted in loss of reference MAP supplied to the carburetors, leaning the air fuel mixture entering the engine's cylinders. The lean mixture caused the engine to begin oscillating, which caused the MRPA to rapidly lose airspeed and altitude. Due to the low airspeed and altitude and having no engine power, the mishap pilot (MP) was unable to take action to prevent the MRPA from impacting the ground. In the 29 seconds the MP had to react, he maintained control of the MRPA, analyzed the situation, and selected the most appropriate landing location. Immediately prior to impact, he pulled the MRPA's nose up to try to protect the MTS-A attached to the front of the MRPA. The MTS-A was functioning subsequent to the mishap and has been assessed to be repairable. Due to the terrain the MRPA landed on, damage to the structure and engine of the aircraft was unavoidable.

Under 10 U.S.C. 2254(d), any opinion of the accident investigators as to the cause of, or the factors contributing to, the accident set forth in the accident investigation report may not be considered as evidence in any civil or criminal proceeding arising from the accident, nor may such information be considered an admission of liability of the United States or by any person referred to in those conclusions or statements.