

AIRCRAFT ACCIDENT INVESTIGATION BOARD REPORT
T-6A, S/N 06-3851
VANCE AIR FORCE BASE, OKLAHOMA
04 JUN 08

EXECUTIVE SUMMARY

On 4 June 2008, at 1016 local time, the Mishap Aircraft (MA), a T-6A, serial number 06-3851, sustained damage as the Mishap Instructor Pilot (MIP) attempted an engine out Forced Landing (FL) approach to Vance Air Force Base (AFB), Oklahoma. The Mishap Student Pilot (MSP) suffered minor injuries. The MA, MIP, and MSP were assigned to the 71st Flying Training Wing at Vance AFB. The MIP and MSP were flying a contact training mission designed to continue the MSP's preparation for an initial solo flight in the T-6. The MA sustained damage to the left wing, landing gear, and propeller estimated at \$831,631.00. The MA impacted a taxiway short of the intended landing runway at Vance AFB. This caused incidental damage to the taxiway, and the grass infield area to its west, but no damage to private property or structures.

During initial departure from Vance AFB, approximately 85 seconds after takeoff, the MA experienced an uncommanded power change. The MIP initiated a return to base via a Precautionary Emergency Landing. During the return, the MA experienced an additional uncommanded power change event accompanied by engine vibrations and a "CHIP" warning light, indicating possible metal contamination in the MA's engine oil supply. The MIP shut down the MA's engine after reaching Vance AFB airspace and once established at an appropriate altitude and airspeed for the FL approach. During the MA's FL approach, the propeller did not move to the commanded streamlined "feathered" position, resulting in increased drag and an increased aircraft descent rate. As a result, the MA failed to reach the runway. The MA impacted Vance AFB Taxiway B, short of Runway 17L, damaging the aircraft. After impact, the MA continued to slide into the grass infield area west of Taxiway B and came to rest approximately 585 feet from its original impact point.

The Accident Investigation Board President determined by clear and convincing evidence the primary cause of the mishap was due to the MA's propeller not feathering in a timely manner. This led to an increase in aerodynamic drag and an excessive descent rate during the MA's FL attempt, which caused the MA to impact short of the runway and sustain damage. Two substantial factors contributed to this mishap. The first factor was the MA experiencing multiple Propeller Sleeve Touchdown (PSTD) events. These PSTDs led to the MA suffering an uncommanded power change on departure which ultimately prompted the MIP to shut down the MA's engine while airborne. The second factor was the MIP not completing the Uncommanded Power Changes/Loss of Power/Uncommanded Propeller Feather checklist procedures. Specifically, the MIP did not reset the Propeller System Circuit Breaker prior to the in-flight engine shutdown which contributed to the MA's propeller not feathering in a timely manner.

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.