

EXECUTIVE SUMMARY
AIRCRAFT ACCIDENT INVESTIGATION
F-15C, T/N 80-0034
LAMBERT FIELD IAP, MISSOURI
2 NOVEMBER 2007

On 2 November 2007, at 0950 Central Standard Time (CST), four F-15C Eagle aircraft departed Lambert Field International Airport (Lambert Field IAP), St. Louis, Missouri (MO) to conduct an air-to-air training mission. At approximately 1011 CST, one of the F-15 aircraft, tail number 80-0034, broke apart in flight and impacted the ground in a wooded area approximately 4 miles south-southeast of Boss, MO; approximately 90 miles south-southwest of Lambert Field IAP. Despite injury to his left shoulder and arm caused by the in-flight breakup, the mishap pilot (MP) ejected successfully and parachuted to the ground. The MP was recovered by local rescue personnel and transported via Life Flight to a St. Louis-area hospital for medical treatment. The mishap aircraft (MA) was based at Lambert Field IAP and assigned to the 110th Fighter Squadron, of the 131st Fighter Wing. The mishap mission was flown in the Lindbergh and Salem Military Operating Areas (MOAs). Lindbergh and Salem MOAs are above predominately agricultural land and forest located approximately 70-150 miles to the southwest of St. Louis, MO. The MA was destroyed upon impact, and the resultant wreckage caused minimal damage to private property.

The mishap flight's mission was to conduct Basic Fighter Maneuvers involving one-on-one offensive attack and defensive maneuvering. During the MP's second engagement, he maneuvered in a nearly level right-hand turn at approximately 450 knots. With less than 7.8 times the force of gravity (G) loaded upon the aircraft, the MA began shaking violently side to side. The MP then transmitted, "Mick 2, knock it off!," while simultaneously rolling wings level and reducing to 1.5 Gs. Within seconds the forward fuselage broke apart from the aft portion of the MA. The MP successfully ejected after the in-flight break-up.

The accident investigation board president found, by clear and convincing evidence, the cause of this accident was a failure of the upper right longeron, a critical support structure in the F-15C aircraft. The MA upper longeron failed to meet blueprint specifications increasing localized stress in the thin web and leading to crack initiation. Engineering and metallurgy analysis of the recovered MA wreckage identified a fatigue crack in the thin web of the longeron near canted fuselage station (CFS) 377 which grew under cyclical flight loads and ultimately led to longeron failure. The longeron failure subsequently triggered a catastrophic failure of the remaining support structures and caused the aircraft to break apart in-flight.

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.