EXECUTIVE SUMMARY
AIRCRAFT ACCIDENT INVESTIGATION
F-16C, S/N 86-0264
BALAD AIRBASE, IRAQ
9 October 2005

On 9 October 05, at 1342 local time, an F-16C, S/N 86-0264, departed the runway surface at Balad Air Base (AB), Iraq, following the failure of the left main landing gear (MLG) tire. The F-16C, assigned to the 332nd Air Expeditionary Wing, deployed from the 482nd Fighter Wing, Homestead Air Reserve Base, had just returned from a day Close Air Support mission. The mishap pilot (MP) egressed the mishap aircraft (MA) without injury. The mishap site was within the confines of Balad AB. There were no injuries. The only damage incurred was to the MA which suffered severe damage to its Theater Airborne Reconnaissance System pod, an Advanced Medium Range Air-to-Air Missile and a collapse of the left MLG. The damages to the MA are estimated at $7.3 million.

The MP flew an uneventful 3.7 hour sortie, up to the point of landing. Five seconds after the MLG touched down but before the touch down of the nose landing gear, the MP experienced a left MLG tire failure at 127 knots (146 mph). After the tire failure, the MP was unable to maintain his aerobrake, even with full aft elevator deflection. With differential braking, the MP was initially able to keep the aircraft aligned in the center of the runway. At approximately 100 knots (115 mph), the rubber outer tire layer separated from the MLG and the aluminum rim locked and started grinding down. The MP selected nosewheel steering (NWS) at 95 knots (109 mph), and was able to keep the aircraft aligned as the wheel continued to grind down. During this sequence, the anti-skid system sensed a differential in braking effectiveness between left and right wheels and reverted to a backup, pulsating mode. This further decreased the effectiveness of the braking on the remaining good right tire. At approximately 80 knots (92 mph), the wheel had ground down to the brake housing. At this point, the brake housing, composed of an iron material, acted like a "boat anchor" and placed a much more significant amount of drag on the left side of the aircraft. Due to the increased drag of the brake housing, the MP's differential braking and NWS was no longer able to keep the MA aligned with the runway and the MA started veering left. After the MP realized that he could not keep the MA on the runway, he shut down the motor to limit or prevent any damage from foreign object debris (FOD). At 38 knots (44 mph) and approximately 9000 feet from the approach end of the runway, the MA departed the landing surface. The force of the departure caused the left MLG to collapse and the MA came to rest approximately 100 feet off the runway.

There is clear and convincing evidence that the cause of the mishap was a left MLG tire failure. There is also substantial evidence to conclude that inadequate maintenance documentation and procedures was a contributing factor to this mishap. Maintenance personnel's failure to accurately track the number of landings resulted in the MLG tires being used for landings that were in excess of the proscribed maximum (22 landings on tires restricted to 20 landings). Several other factors also existed that may have contributed to the tire failure: heavier than normal aircraft configurations, deteriorating runway conditions, on-going FOD problems, and lengthy taxi distances.

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 an aircraft 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.