EXECUTIVE SUMMARY

AIRCRAFT ACCIDENT INVESTIGATION BOARD

F-15C, S/N 80-0047

57TH WING

NELLIS AIR FORCE BASE, NEVADA

24 October 2002

On 24 October 2002, at approximately 0920, Pacific Standard Time, an F-15C took off from Nellis AFB, Nevada, and experienced catastrophic engine failure due to oil starvation. The aircraft was on a standard USAF Weapons School syllabi mission.

Mission planning and required briefings with all crewmembers were normal. Ground operations, preflight, engine start, and take off were uneventful. The mishap aircraft (MA) was number two in a three ship formation. Approximately 15 minutes into the planned flight, the mishap pilot (MP) advanced his throttles to select afterburner. Immediately the master caution light illuminated along with an associated oil pressure light on the number one engine, the mishap engine (ME). The MP immediately deselected afterburner and the ME experienced a compressor stall. The MP checked all engine instruments and noticed the ME revolutions per minute (RPM) decreasing along with a decrease in the Fan Turbine Inlet Temperature (FTIT). The MP brought the ME throttle to idle, rechecked the engine instruments, and noticed the oil pressure was between 5 and 10 pounds per square inch with the RPM continuing to decrease. In accordance with checklist procedures, the MP shut down the ME and flew an uneventful single engine approach and landing.

There were no injuries or fatalities as a result of this mishap. The aircraft suffered approximately $1.4 million in damage, all confined to the ME. There are no claims for damage to government or private property. There were no press inquiries.

The primary cause of this mishap was the failure of a check valve on the number four engine bearing chip detector housing to form a positive seal thus allowing the oil to drain out of the engine, thereby depleting the oil system. There is no conclusive evidence as to why the valve failed. In addition to the failure of the check valve seal, the number four engine bearing chip detector was improperly installed and became disengaged from its housing prior to, or shortly after take off. The ME seized due to oil starvation, causing catastrophic damage to the engine and precluding any chance of restart.

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 by the United States or by any person referred to in those conclusions or statements.