

EXECUTIVE SUMMARY

AIRCRAFT ACCIDENT INVESTIGATION B-1B, SN86-00129 34th EXPEDITIONARY BOMB SQUADRON 31 MARCH 2003

On 31 March 2003 while conducting a combat mission over Iraq in support of Operation Iraqi Freedom, a malfunction prevented a B-1B crew from dropping all of its bombs from the aft weapons bay. The crew continued its mission, expended the remaining bombs from the forward and intermediate weapons bays, and returned the B-1B safely to its forward operating location. None of the four crewmembers received any injuries. There was no damage to civilian personnel or property as a result of this mishap. The B-1B, tail number 86-00129, and its four aircrew, are assigned to the 28th Bomb Wing, Ellsworth Air Force Base, South Dakota. While supporting Operation Iraqi Freedom, the crew and the aircraft were assigned to the 34th Expeditionary Bomb Squadron, 405th Air Expeditionary Wing.

The mission was designed to attack two Iraqi target areas, dropping 11 bombs on one target area, and dropping 13 bombs on another target area. The malfunction occurred while dropping the bombs on the first target area. During the post-flight inspection, the ground recovery crew discovered the four remaining bombs in the aft bomb bay and the internal damage caused by the malfunction. Damage to the aircraft included the following: conventional rotary launcher (CRL), transformer-rectifier (TR), weapons bay doors, power supply, and aft weapons bay spoiler. Damage to the aircraft is estimated at \$1,243,694.

There is clear and convincing evidence that the cause of this mishap was the failure of two rivets within the hook release rod assemblies in the 30-inch ejector rack located on station seven of the CRL caused by an un-level bomb load. The failure of the rivets locked the front weapon-retaining hook closed, preventing the bomb's release and causing it to rotate forward around the front hook and break free by sheering two bolts on the front of the ejector rack. During this process, the bomb impacted the TR, power supply, aft bay doors, and aft weapons bay spoiler before departing the aircraft over the target area. The TR broke free of the mounting points, but remained attached to the CRL by the electrical cable. The TR then struck and caused irreparable damage to the CRL.

Using a "clear and convincing standard," an un-level bomb load caused the rivets on the ejector rack to fail. The bomb was slightly un-level as it was being loaded onto the ejector rack, preventing the forward and aft hook tangs from simultaneously engaging. The aft bomb lug then blocked the aft hook from rotating, while the bomb lift truck continued to apply an upward force. The upward force created tensile forces in the forward hook release rod assemblies great enough to shear the rivets in the hook release rod assemblies. The fitting end of the hook release rod then separated from the hook release rod, preventing the hook from releasing the bomb as designed.

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.