

EXECUTIVE SUMMARY

AIRCRAFT ACCIDENT INVESTIGATION B-1B, S/N 85-0066 37th EXPEDITIONARY BOMB SQUADRON 15 SEPTEMBER 2005

On 15 September 2005, at 2340L (1340Z), B-1B serial number 85-0066, experienced a fire in the right main landing gear shortly after landing at Andersen Air Force Base, Guam. The B-1B and Mishap Crew (MC) are assigned to the 28th Bomb Wing, Ellsworth AFB, South Dakota and deployed as the 37th Expeditionary Bomb Squadron. The mishap crew (MC) egressed the mishap aircraft (MA) safely. There were no injuries. There was no damage to private property. Damage to the MA was estimated over \$32 million while damage to the taxiway was estimated at \$183,967.40.

The Accident Investigation Board (AIB) President found clear and convincing evidence the cause of the mishap was the combination of leaking hydraulic fluid and sparks from the forward inboard brake assembly gouging the interior of its accompanying wheel on the right main landing gear. The gouging resulted from a failure of the torque tube bushing in the brake assembly coupled with an outward migration of the axle beam bushing. Outward migration of the axle beam bushing absorbed the gaps designed into the spacing of the brake torque link, brake and wheel upon the axle. Over an indeterminate period of time, tension produced by the migrating axle beam bushing introduced vertical movement in the brake assembly deteriorating and eventually splitting the brake torque tube bushing. Once the torque tube bushing failed, the brake assembly was no longer securely supported on its vertical axis. The failed torque tube bushing coupled with a slightly more lateral position of the brake, due to the migrating axle beam bushing, allowed the brake bolts to press into the wheel and gouge the rim creating sparks. Consequently, a repetitive load on the brake swivel pin which connects the brake to the brake swivel weakened the pin.

During the MA's final approach, between final gear extension and touchdown indication, the brake swivel pin broke. The broken pin resulted in a leak of the primary brake hydraulic system which sprayed hydraulic fluid onto the right main landing gear. Following touchdown and during aircraft rollout, sparks from the gouging wheel ignited the leaking hydraulic fluid causing a fire in the right main landing gear. Subsequently, the secondary brake hydraulic system line in the right forward main landing gear area burst providing additional fuel in the form of high pressure hydraulic fluid. This caused the fire to rapidly expand from the right main landing gear to the nacelle, wing and overwing fairing area on the right side of the MA.

Under 10 U.S.C. 2254(d), any opinion of the accident investigators as to the course 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.