

EXECUTIVE SUMMARY

AIRCRAFT ACCIDENT INVESTIGATION

C-130E, S/N 63-7853

43rd Airlift Wing

Pope Air Force Base (AFB), North Carolina

17 July 2006

On 17 Jul 06, at 0101 local time (2101 Zulu), the crew of a C-130E, S/N 63-7853, accomplished a night landing at Al Asad Air Base (AB), Iraq. The Mishap Crew (MC) flew a full flap (100%) visual approach on Night Vision Goggles (NVGs) to runway 27 Left (27L) and touched down approximately 1,500 feet down the runway. The Mishap Pilot (MP) executed an aggressive landing slowing the aircraft to taxi speed within 3,500 feet of touchdown (runway 27L is 13,123 feet long). After slowing to taxi speed on the runway at intersection Golf, the MC executed a high speed taxi down the remainder of the runway to taxiway India reaching an average speed of 29 knots (34 mph) with 4 brake applications before exiting the runway. Subsequent taxi routing totaled approximately 3.3 miles with a duration of 7 minutes and 25 seconds (taxiways India, Hotel, Charlie, and Alpha). During the taxiing there were a total of 18 brake applications per the cockpit voice recording (CVR), before final failure of the brake system and flight termination on taxiway Alpha.

Immediately upon exiting the runway the Mishap Flight Engineer (MFE) could not down speed the #2 engine. Throughout the remainder of the follow-on taxi (approximately 7 minutes) the MFE continued to troubleshoot the engine without a determination of the cause. A maintenance post-flight examination of the Low Speed Ground Idle (LSGI) system could find no source of system failure. The Aircraft Investigation Board determined that the MP positioned the throttle outside the LSGI limits (throttles must be in the 9-30 degree range in Ground Idle to allow down speed). Configuration for the remainder of the taxi was with the #1, #2 and #4 engines on speed (100% RPM) and the #3 engine down speed (69-75.5% RPM) creating an excessive thrust condition for safe taxi. Based on the review of data, the Mishap Aircraft (MA) taxied on taxiway Hotel for 2.1 miles carrying an average speed of 33 knots (38 mph) with 4 separate brake applications (reverse thrust was not used throughout the taxi except to stop the aircraft for egress). After approximately 5 minutes of taxiing, the MFE attempted to down speed the #1 engine which would not down speed (same cause as above). One minute later, the MA turned onto taxiway Alpha and the MP lost use of the normal brake system. The Mishap Co-Pilot (MCP) reported failure of both the normal and emergency brake systems. Simultaneously, the Mishap Navigator (MN) reported flames out the right side of the aircraft. The MFE and Mishap Loadmaster (ML1) confirmed flames on the right side. The MP commanded ground evacuation and stopped the aircraft with full reverse thrust. Emergency ground egress was accomplished. The MC and 56 passengers exited the MA safely without injuries.

Based on clear and convincing evidence, the Board President determined that the primary cause of the mishap was pilot and crew error. Improper and excessive use of brakes combined with excessive taxi speeds resulted in severe hot brakes and eventual catastrophic mechanical failure

of three of the four brakes (left aft, left forward and right forward). The inability of the MC to down speed engines, the refusal of the MP to use engine reverse during taxi, failure to shutdown engines to control taxi speed, and excessive use of brakes during the high speed taxi were found to be causal. The superheated brakes within the wheel assemblies caused brake seal deterioration and subsequent failure, thereby introducing atomized hydraulic fluid. The fluid subsequently ignited, creating an extensive wheel well fire causing significant damage to the aircraft. There is also substantial evidence to indicate that three other factors contributed to the mishap: (1) flight planning – the MC's failure to recognize taxiway Golf was closed via Notice to Airmen (NOTAM) and Automatic Terminal Information Service (ATIS) led to an aggressive landing in an attempt to exit the runway 3,500 feet after touchdown at taxiway Golf; (2) channelized attention – the MP failed to incorporate key information into the current situation resulting in a severe degradation of situational awareness; (3) judgment and decision making – the MC executed a shortened landing roll with aggressive braking and a high speed taxi on the runway. Additionally, the MP failed to analyze the MFE's inability to down speed the #2 engine and forced the MC into an improper and excessive use of the brakes combined with excessive taxi speeds.

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.