

EXECUTIVE SUMMARY

C-130E Accident, 5 Sep 2001

1. This Class A accident occurred at 1952L on 5 Sep 2001, when C-130E, S/N 68-0934, assigned to the 43 Airlift Wing, Pope AFB, North Carolina, experience an in-flight fire on the #4 engine and loss of the #4 engine which departed the aircraft. The mission was a local tactical airdrop-training sortie being conducted in the Pope AFB local training area.
2. The mission was planned as a night two-ship tactical airdrop mission. Two crewmembers of the formation were unable to fly and the crews were consolidated into a single aircraft and the mission continued as a single ship All Weather Aerial Delivery System (AWADS) route and three visual routes. The mission was uneventful during the AWADS portion of the mission. Approximately one hour into the sortie, the mishap crew (MC) detected abnormal number four engine indications. The number four engine caught fire and the MC shut down the engine using the emergency shutdown procedure (ESP). The engine fire continued after completion of the ESP and departed the aircraft 5 nautical miles northwest of Laurinburg Airport, Laurinburg NC, approximately 40 miles southwest of Pope AFB, over an unpopulated, wooded area.
3. The MC landed the aircraft at Fayetteville Regional Airport and the MC successfully ground egressed the aircraft. There were no injuries. Post accident evidence indicated that the aircraft was intact minus the #4 engine, tail pipe, aft-nacelle doors, and the upper-aft-nacelle cowling, all departing the aircraft prior to landing. Visual inspection of the area forward of the #4 dry bay clearly revealed that a fire had occurred in this area. Insulation on electrical wire had been burned away; the paint on the forward side of the spar had been heated to the point of being blistered, peeling or missing entirely. The remaining parts of the engine truss mount were severely bent and elongated with visible signs of aluminum splatter found in several areas. Additionally, the paint on the lower exterior wing surfaces aft of the #4 engine area was discolored, blistered entirely. The upper surface also exhibited a lesser degree of the same indications of an in-flight fire.
4. The #4 engine on the mishap aircraft was overhauled in Oct 2000 by the Engine Regional Repair Center (ERRC) at Little Rock AFB, operated by the Air Force and Raytheon Aerospace. EERC ran the engine on the AMC test cell at Little Rock AFB; the engine passed all acceptance runs. The engine was then shipped to Pope AFB, where it was installed on the mishap aircraft in the #4 position on 31 Jul 2001. On the mission prior to the mishap flight, the #4 engine was removed from the aircraft by the 43rd Maintenance Squadron, Pope AFB (43 MXS), for a turbine problem. The turbine was replaced with a turbine module received from the Lockheed Contract Field Team (CFT) at Little Rock AFB. The turbine module had been worked in July 2001 for repair of the turbine inlet guide vanes. The engine, with the new turbine, was run on the 43 MXS test cell and attained 98.75% efficiency, and was approved for use. The engine was then returned to the #4 position on the mishap aircraft and test run with no discrepancies.
5. The AIB President found that general maintenance and servicing was accomplished in compliance with technical data and was not a factor in this mishap; however, there is clear and convincing evidence that the following item was causal:

The first stage turbine wheel disintegrated. Sections of the turbine wheel web, rim and blades exited through the turbine inlet case at the 1 to 2 o'clock, 4, and 7 to 8 o'clock positions (aft looking forward). Teardown of the turbine clearly indicates that the majority of the first stage wheel and all the attached blades were missing. All the turbine inlet case struts were cracked or

Under 10 United States Code 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 proceedings arising from an aircraft accident, nor may such information be considered an admission of the liability of the United States or by any person referred to in those conclusions or statements.

C-130E, S/N 68-10934