C-130A, Walker, California - N130HP crash scene from NTSB report

Lockheed C-130A Hercules registration N130HP, call sign Tanker 130, was flying against the Cannon Fire, near Walker, California on June 17, 2002, when it experienced structural failure of the center wing section, causing both wings to fold upward and separate from the aircraft. The fuselage rolled and crashed inverted, killing the three crewmen on board.

The NTSB investigated the crash and determined that the accident was caused by a structural failure that occurred at the wing-to-fuselage attach point, with the right wing failing just before the left.

The investigation disclosed "evidence of fatigue cracks in the right wing's lower surface skin panel, with origins beneath the forward doubler. The origin points were determined to be in rivet holes which join the external doubler and the internal stringers to the lower skin panel.

These cracks, which grew together to about a 12-inch (30 cm) length, were found to have propagated past the area where they would have been covered by the doubler and into the stringers beneath the doubler and across the lap joint between the middle skin panel and the forward skin panel

Center Wing Inspections

The center wing inspections that were being performed by H&P were based on inspections taken from various United States Air Force (USAF) Technical Orders (T.O.s). Review of the H&P IPG-182 and the USAF T.O. 1C-130A-36 maintenance manuals found that there was no specific inspection requirement for cracks in the fastener holes beneath the doublers located at either CWS 53L or 53R; however, several tasks were identified in both documents that provided crack inspection instructions in the general area of those doublers.

These inspections called out various, visual, eddy current, and fluorescent penetrant inspections in the skin panel seams and stringers at the fastener hole locations. Further review of the manual revealed a procedure for an x-ray inspection in the fastener holes for the doublers located outboard of CWS 61.

The protocol for this inspection included having the doubler still installed on the wing, and, if cracks were detected, then the doubler would be removed and a backup eddy current inspection would be performed. For the C-130A model only, two doublers are installed on either side of BL 61L and 61R. C-130 models B and E have only those doublers located outboard of 61L and 61R. **The outboard doubler inspection called for in the manual was not included in the set of centre wings inspection called out in H & P IPG-182.**

The inspection and maintenance programs employed by H&P were based on an established military program developed in the late 1980s when this airplane was first delivered to the Forest Service.

Review of these programs revealed that they were based on the original design intent and military mission profile, and that no continuing airworthiness program had been established to determine if the current inspection and maintenance programs were appropriate and effective taking into account the increased age of the aircraft and the new low level firefighting mission.