



Mr. Bill Warlick and Lt. Travis Inouye

**C**apt. Kevin Krzeminski, an instructor at HMLA/T-303 (the UH-1N and AH-1W fleet-replacement squadron), was the aircraft commander of the Dash-2 aircraft in a flight of two UH-1Ns. They were conducting basic daytime-formation maneuvers and section landings aboard MCB Camp Pendleton.

The aircrew on Dash-2 was 1stLt. Joshua Piper, the pilot-under-instruction (PUI); SSgt. Michael Pyland, the crew-chief instructor; and LCpls. Christopher Riveragant, Jordan Liszka and Edmond Tucker, the crew-chiefs-under instruction.

The flight had aborted the formation-maneuvers sequence because of poor weather along the beach and had headed east to conduct section landings two miles inland.

The section completed the landings and was returning to MCAS Camp Pendleton, heading south at 1,000 feet MSL and 100 knots, when Capt. Krzeminski's aircraft suddenly began to shake violently. He immediately initiated an auto-rotative-descent profile, while he scanned the instruments to determine the source of the vibrations. When he reduced the collective, the severity of the vibrations decreased. Capt. Krzeminski determined the engines, transmission and gearboxes still were operating normally.

SSgt. Pyland spotted an open, dirt parking lot at the aircraft's 9 o'clock position. As Capt. Krzeminski turned left toward the parking lot and applied power, 1stLt. Piper continued to scan the gauges, looking for any secondary indications. The increase in collective was accompanied by increased vibrations. The crew decided to fly a powered-on approach to a no-hover landing in the parking lot. The aircraft entered brownout conditions with the skid one foot off the ground. Capt. Krzeminski smoothly reduced the collective and set the aircraft down in the parking lot.

After shutting down the aircraft, the crew found that one of the blades had begun to delaminate. The blade's skin was peeled back 1.5 inches, exposing the blade skin to the wind line. The delamination started on top of the blade, just behind the leading-blade cap, and extended 14.5 inches inboard.

The aircraft was repaired on-site by removing and replacing the head and blades. It was returned to flying status within 24 hours. The damage had resulted from corrosion after water intruded under a previous blade-patch repair. Timely and effective decision-making, efficient crew-resource management, and skillful airmanship by the entire crew allowed them to control a dangerous situation.

**B**ill Warlick (a Wyle Labs contractor instructor and a retired Navy commander) and Lt. Travis Inouye (a test-pilot-under-instruction) were flying a handling-qualities syllabus flight in the U-6A Beaver. This aircraft is regarded as one of the most challenging to master at test-pilot school (TPS).

While established on downwind after four uneventful landings at a local outlying field (OLF), the crew heard a loud bang coming from the tail, accompanied with a significant left yaw. They use areful power corrections, right-rudder trim, and right-wing-down attitude to maintain heading because they couldn't steer using rudder pedals.

Following an inconclusive airborne visual inspection, Warlick did a controllability check to determine a safe approach speed. However, the deceleration to flare and subsequent ground-rollout controllability still were a major concern. After chasing light and variable winds to gain an advantageous crosswind, he aborted the first landing attempt because of excessive left drift and high potential of departing the runway surface (usually resulting in a ground loop). He then flew a second approach to the extreme side of the runway and, using aggressive differential braking, stopped safely on the runway.

Aircrew inspection after engine shutdown revealed a fully deflected left rudder: no damage to any other aircraft component was visible. The maintenance inspection determined the rudder-cable cam had disconnected from the torque tube assembly, which caused loss of rudder control.

Warlick and Lt. Inouye exercised impressive crew resource management to assess the situation. They had sought assistance from NAS Patuxent River Tower, and had clearly communicated to operations and maintenance to solicit plausible remedies. Warlick displayed superior airmanship in handling a serious directional-control problem on the most notorious "directionally challenged" tail dragger.

# BRAVO Zulu

Left to right: Capt. Kevin Krzeminski, SSgt. Michael Pyland, LCpl. Christopher Riveragant, LCpl. Jordan Liszka, LCpl. Edmond Tucker, 1stLt. Joshua Piper.

## HMLA/T-303



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