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AVS Flyer: New UH-1 Helicopter Switch Saves ⁰ Life



Photos of the UH-1 tail boom assembly.

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On February 14, 2015, a UH-1 helicopter was conducting long line logging operations in the mountains outside of Corvallis, OR, when the pilot heard a noise and subsequently the tail boom caution indicator light came on. The pilot immediately dropped the external load and landed. Upon inspection, he found that one of the tail boom mount bolts had broken.

The tail boom is a hollow tube that extends from the rear of the helicopter frame and holds the tail case and tail rotor assemblies together with four bolts, or what is called a bathtub fitting. As a result of the vibration of the transmission on the helicopter, there have been many cases where these bolts have broken. If a pilot is unaware of the bolts loosening, safety is severely compromised and situations like this one can be fatal.

Tail boom movement indicator lights were not previously installed on UH-1 helicopters. A Montana-based repair facility approached the FAA about a potential modification to the fitting holding the tail boom. They were hoping to prevent accidents that could endanger the life of the rotorcraft's flight crew.

Aircraft Structural Repair, Inc. designed a switch that provides lighted notification to the flight crew if there is movement on the tail boom. They worked with the Helena Flight Standards District Office (FSDO) and the Denver Aircraft Certification Office (ACO) to inspect the modification, review the flight manual supplements and obtain design approval of the product.

"This is an example of the good working relations between AFS and AIR that resulted in a simple, yet life-saving device," said **Todd Dixon**, Manager of the Denver ACO. The FAA approved this major alteration via the coordinated field approval process and the helicopters were returned to service.

"There is a strong possibility that the new system prevented an accident and possibly saved the pilot's life," said **Troy Meskimen**, an Aviation Safety Inspector in the Helena FSDO. "It's good to hear something positive once in a while to remind us why we do what we do."

Get more of the AVS Flyer.

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Accident Investigation is a Team Sport: AVP-100 is its Coach

For a group of only seven investigators, FAA's Accident Investigation Division (AVP-100) sure does have its hands full, and last month was no exception. Fortunately, accident investigation and prevention is a team sport.

"We don't just wait around to launch to the next major airline accident site," says **Jeff Guzzetti**, AVP-100's manager. "We are FAA's eyes and ears for every general aviation accident and air carrier incident that occurs across the country each day, and we know when and how to quarterback the agency's efforts to facilitate and accelerate safety action."

In late January, 2015, an Enstrom 280FX helicopter crashed on descent during an instructional flight when a main rotor blade separated. AVP-100 investigator **Matt Rigsby** received the alert and immediately

went to work. He notified **Jeff** and suggested AVP-100 closely monitor the investigation and perhaps launch someone to assist.

A blizzard on the East Coast made launching impossible, but the on-site investigators harvested the wreckage for closer inspection at a local salvage facility. **Matt** contacted the local Denver Flight Standards inspector, **Chris Lang**, and learned that the preliminary indicators suggested a fracture near the end of the blade attach spindle threads.

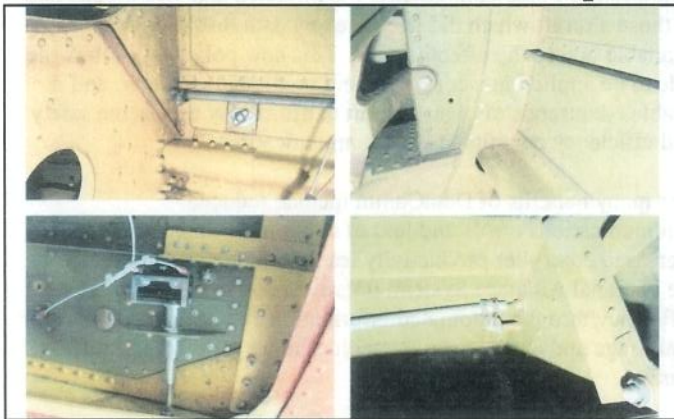
Matt contacted **Greg Michalik** from the Chicago Aircraft Certification Office (ACO), which is responsible for the helicopter's design type. "This design has been in use for as long as any of us can remember," **Greg** said, "and this is the first incident of this type we have seen."



AVP-100's **Bob Hendrickson** examines the damage to the first stage of the high pressure turbine section of a GE GenEx engine from a foreign carrier.

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