

Alaskan Airlines Flight 261



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The National Transportation Safety Board determined today that the probable cause of the January 31, 2000 Alaska Airlines flight 261 accident was the loss of airplane pitch control resulting from in-flight failure of the horizontal stabilizer trim system jackscrew assembly's acme nut thread.

The component failed because of excessive wear resulting from Alaska Airlines' insufficient lubrication of the jackscrew assembly.

Contributing to the accident were

(1) Alaska Airlines' extended lubrication interval, and the FAA's approval of that extension, which increased the likelihood that an unperformed or inadequate lubrication would result in excessive wear of the acme nut threads; and

(2) Alaska Airlines' extended end play check interval, and the FAA's approval of that extension, which allowed the excessive wear of the acme nut threads to progress to failure without the opportunity for detection.

The investigation found that Alaska Airlines had fabricated tools to be used in the end play check that did not meet the manufacturer's requirements.

Testing revealed that the non-standard tools ("restraining fixtures") used by Alaska Airlines could result in inaccurate measurements, and that it was possible that if accurate measurements had

been obtained at the time of the last inspection, these measurements would have indicated the excessive wear and the need to replace the affected components.

Recommendations issued to the FAA in today's final report include:

Require operators and maintenance facilities that overhaul jackscrew assemblies to permanently

(1) track end play measure according to airplane registration numbers and jackscrew assembly serial number,

(2) calculate and record average wear rates for each airplane based on end play measurements and flight times, and

(3) develop and implement a program to analyze these data to identify and determine the cause of excessive or unexpected wear rates, trends or anomalies.

The Federal Aviation Administration should also require operators and maintenance facilities that overhaul jackscrews assemblies to report this information to the FAA for use in determining and evaluating an appropriate end play check interval.

Require that maintenance facilities that overhaul jackscrew assemblies record and inform customers of an overhaul assembly's end play measurements.

Require operators to measure and record the on-wing end play measurement whenever a jackscrew assembly is replaced.

Establish the jackscrew assembly lubrication procedure as a required inspection item that must have an inspector's signoff before the task be considered complete.

Company Cultural Issues

In 1998, an Alaska Airlines mechanic named John Liotine, who worked in the Alaska Airlines maintenance center in Oakland, California, told the FAA that supervisors were approving records of maintenance that they were not allowed to approve or that indicated work had been completed when the work had not been completed.

Liotine began working with federal investigators by secretly audio recording his supervisors. On December 22, 1998, federal authorities raided an Alaska Airlines property and seized its records.

In August 1999 Alaska Airlines put Liotine on paid leave, and in 2000 Liotine filed a libel suit against the airline.

The crash of AS261 became a part of the federal investigation against Alaska Airlines because in 1997 Liotine had recommended that the jackscrew and gimbal nut of the aircraft involved in the accident be replaced.

In December 2001 federal prosecutors stated that they were not going to file criminal charges against Alaska Airlines.



Around that time Alaska Airlines agreed to settle the libel suit by paying about \$500,000; as part of the settlement, Liotine resigned.