



Aviation Investigation Final Report

Location:	WHEELING, Illinois	Incident Number:	CHI99IA144
Date & Time:	April 26, 1999, 09:30 Local	Registration:	N42122
Aircraft:	Cessna 206H	Aircraft Damage:	None
Defining Event:		Injuries:	2 None
Flight Conducted Under:	Part 91: General aviation - Positioning		

Analysis

During the run-up flight control checks prior to takeoff, the pilot experienced an aileron control failure. He was unable to obtain left aileron up movement. Inspection determined that the aileron had 4 degrees of up travel. Normal travel was 20 degrees +/- 2 degrees. Further inspection revealed that one of the aileron control bellcrank stop bolt/jam nut assemblies was loose allowing the stop bolt to rotate out of the threaded boss. This restricted the aileron movement. The three other stop bolt/jam nut assemblies were also inspected and were found to be loose. The airplane was a 1999 model, s/n 25, which had a total of approximately 11 hours on it at the time of the incident. In response to this incident Cessna Aircraft Company issued Special Service Project SSP99-27-02. On June 21, 1999, the Federal Aviation Administration issued Airworthiness Directive, 99-13-04, effective July 13, 1999. The AD requires '...inspecting the left and right wing aileron control bellcrank stop bolts and lock nuts for flush and tight contact with the surface of the threaded boss on each end of the yoke assemblies, and accomplishing follow-on and corrective actions, as applicable.'

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this incident to be: improper installation of the aileron control bellcrank stop bolts and lock nuts during the manufacturing process which resulted in a binding aileron control surface.

Findings

Occurrence #1: AIRFRAME/COMPONENT/SYSTEM FAILURE/MALFUNCTION
Phase of Operation: STANDING - ENGINE(S) OPERATING

Findings

1. (C) FLT CONTROL SYST,AILERON CONTROL - BINDING(MECHANICAL)
2. (C) MAINTENANCE,INSTALLATION - IMPROPER - MANUFACTURER

Factual Information

On April 26, 1999, at 0930 central daylight time, a Cessna 206H, N42122, registered to Palwaukee Aviation, experienced an aileron control failure during the run-up flight control checks prior to takeoff. The incident occurred at the Palwaukee Airport, Wheeling, Illinois. The airplane was not damaged. The pilot and passenger were not injured. The 14 CFR Part 91 positioning flight was operating in visual meteorological conditions and no flight plan was filed. The planned destination was Naperville, Illinois.

The pilot reported that he was unable to obtain left aileron up movement. He taxied the airplane to a maintenance facility where it was determined that the aileron had 4 degrees of up travel. Normal travel is 20 degrees +/- 2 degrees. Further inspection revealed that one of the aileron control bellcrank stop bolt/jam nut assemblies was loose allowing the stop bolt to rotate out of the threaded boss. This restricted the aileron movement. The three other stop bolt/jam nut assemblies were also inspected and were found to be loose. The airplane is a 1999 model, s/n 25, which had a total of approximately 11 hours on it at the time of the incident.

In response to this incident Cessna Aircraft Company contacted all Cessna 206H and T206H owners/operators and informed them of this occurrence. Cessna Aircraft Company then issued Special Service Project SSP99-27-02. On June 21, 1999, the Federal Aviation Administration issued Airworthiness Directive, 99-13-04, effective July 13, 1999. The AD requires "...inspecting the left and right wing aileron control bellcrank stop bolts and lock nuts for flush and tight contact with the surface of the threaded boss on each end of the yoke assemblies, and accomplishing follow-on and corrective actions, as applicable."

Pilot Information

Certificate:	Commercial	Age:	42, Male
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 2 Valid Medical--no waivers/lim.	Last FAA Medical Exam:	April 13, 1998
Occupational Pilot:	No	Last Flight Review or Equivalent:	
Flight Time:	1596 hours (Total, all aircraft), 14 hours (Total, this make and model), 1424 hours (Pilot In Command, all aircraft), 168 hours (Last 90 days, all aircraft), 44 hours (Last 30 days, all aircraft), 4 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	Registration:	N42122
Model/Series:	206H 206H	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	25
Landing Gear Type:	Tricycle	Seats:	6
Date/Type of Last Inspection:	Unknown	Certified Max Gross Wt.:	3600 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:	11 Hrs	Engine Manufacturer:	Lycoming
ELT:	Installed, not activated	Engine Model/Series:	IO-540
Registered Owner:	PALWAUKEE AVIATION	Rated Power:	300 Horsepower
Operator:		Operating Certificate(s) Held:	None
Operator Does Business As:		Operator Designator Code:	

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Dawn
Observation Facility, Elevation:	PWK ,647 ft msl	Distance from Accident Site:	
Observation Time:	10:53 Local	Direction from Accident Site:	
Lowest Cloud Condition:	Clear	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	9 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	60°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29 inches Hg	Temperature/Dew Point:	14°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:		Type of Flight Plan Filed:	None
Destination:	NAPERVILLE , IL (LL10)	Type of Clearance:	
Departure Time:	00:00 Local	Type of Airspace:	

Airport Information

Airport:	PALWAUKEE PWK	Runway Surface Type:	
Airport Elevation:	647 ft msl	Runway Surface Condition:	
Runway Used:	0	IFR Approach:	
Runway Length/Width:		VFR Approach/Landing:	

Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	None
Passenger Injuries:	1 None	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	2 None	Latitude, Longitude:	42.130645,-87.920455(est)

Administrative Information

Investigator In Charge (IIC):	Sullivan, Pamela
Additional Participating Persons:	DON BRIGHAM; W. CHICAGO, IL
Original Publish Date:	August 14, 2001
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=46221

The National Transportation Safety Board (NTSB) is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant events in other modes of transportation—railroad, transit, highway, marine, pipeline, and commercial space. We determine the probable causes of the accidents and events we investigate, and issue safety recommendations aimed at preventing future occurrences. In addition, we conduct transportation safety research studies and offer information and other assistance to family members and survivors for each accident or event we investigate. We also serve as the appellate authority for enforcement actions involving aviation and mariner certificates issued by the Federal Aviation Administration (FAA) and US Coast Guard, and we adjudicate appeals of civil penalty actions taken by the FAA.

The NTSB does not assign fault or blame for an accident or incident; rather, as specified by NTSB regulation, “accident/incident investigations are fact-finding proceedings with no formal issues and no adverse parties ... and are not conducted for the purpose of determining the rights or liabilities of any person” (Title 49 *Code of Federal Regulations* section 831.4). Assignment of fault or legal liability is not relevant to the NTSB’s statutory mission to improve transportation safety by investigating accidents and incidents and issuing safety recommendations. In addition, statutory language prohibits the admission into evidence or use of any part of an NTSB report related to an accident in a civil action for damages resulting from a matter mentioned in the report (Title 49 *United States Code* section 1154(b)). A factual report that may be admissible under 49 *United States Code* section 1154(b) is available [here](#).