



National Transportation Safety Board Aviation Accident Data Summary

Location:	Columbus, OH	Accident Number:	CHI08MA270
Date & Time:	09/01/2008, 1206 EDT	Registration:	N587X
Aircraft:	CONVAIR CV-580	Injuries:	3 Fatal
Flight Conducted Under:	Part 91: General Aviation - Flight Test		

Analysis

The accident flight was the first flight following maintenance that included flight control cable rigging. The flight was also intended to provide cockpit familiarization for the first officer and the pilot observer, and as a training flight for the first officer. About one minute after takeoff, the first officer contacted the tower and stated that they needed to return to land. The airplane impacted a cornfield about one mile southwest of the approach end of the runway, and 2 minutes 40 seconds after the initiation of the takeoff roll. The cockpit voice recorder (CVR) indicated that, during the flight, neither the captain nor the first officer called for the landing gear to be raised, the flaps to be retracted, or the power levers to be reduced from full power. From the time the first officer called "rotate" until the impact, the captain repeated the word "pull" about 27 times. When the observer pilot asked, "Come back on the trim?" the captain responded, "There's nothing anymore on the trim." The inspection of the airplane revealed that the elevator trim cables were rigged improperly, which resulted in the trim cables being reversed. As a result, when the pilot applied nose-up trim, the elevator trim system actually applied nose-down trim. The flight crew was briefed on the maintenance work that had been performed on the airplane; therefore, when the captain's nose-up trim inputs were affecting his ability to control the airplane, at a minimum, he should have stopped making additional inputs and returned the airplane to the configuration it was in before the problem worsened. An examination of the maintenance instruction cards used to conduct the last inspection revealed that the inspector's block on numerous checks were not signed off by the Required Inspection Item (RII) inspector. The RII inspector did not sign the item that stated: "Connect elevator servo trim tab cables and rig in accordance with Allison Convair [maintenance manual]..." The item had been signed off by the mechanic, but not by the RII inspector. The card also contained a NOTE, which stated in bold type, "A complete inspection of all elevator controls must be accomplished and signed off by an RII qualified inspector and a logbook entry made to this effect." The RII inspector block was not signed off.

Flight Events

Prior to flight - Aircraft maintenance event
Initial climb - Flight control sys malf/fail
Initial climb - Collision with terr/obj (non-CFIT)

Probable Cause

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The improper (reverse) rigging of the elevator trim cables by company maintenance personnel, and their subsequent failure to discover the misrigging during required post-maintenance checks. Contributing to the accident was the captain's inadequate post-maintenance preflight check and the flight crew's improper response to the trim problem.

Findings

Aircraft-Aircraft structures-Empennage structure-Elevator/tab attach fitting-Incorrect service/maintenance - C

Aircraft-Aircraft structures-Empennage structure-Elevator/tab attach fitting-Inadequate inspection - C

Personnel issues-Task performance-Inspection-Post maintenance inspection-Maintenance personnel - C

Personnel issues-Task performance-Inspection-Post maintenance inspection-Pilot - F

Personnel issues-Task performance-Maintenance-(general)-Maintenance personnel - C

Personnel issues-Action/decision-Action-Incorrect action selection-Flight crew - F

Pilot Information

Certificate:	Airline Transport	Age:	57
Airplane Rating(s):	Multi-engine Land; Single-engine Land	Instrument Rating(s):	Airplane
Other Aircraft Rating(s):	None	Instructor Rating(s):	None
Flight Time:	16087 hours (Total, all aircraft), 170 hours (Last 90 days, all aircraft), 46 hours (Last 30 days, all aircraft)		

Co-Pilot Information

Certificate:	Airline Transport; Commercial	Age:	58
Airplane Rating(s):	Multi-engine Land; Single-engine Land	Instrument Rating(s):	Airplane
Other Aircraft Rating(s):	None	Instructor Rating(s):	Airplane Multi-engine; Airplane Single-engine
Flight Time:	19285 hours (Total, all aircraft), 15599 hours (Pilot In Command, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Manufacturer:	CONVAIR	Registration:	N587X
Model/Series:	CV-580	Engines:	2 Turbo Prop
Operator:	Air Tahoma Inc	Engine Manufacturer:	Allison
Air Carrier Operating Certificate:	Flag carrier (121); Supplemental	Engine Model/Series:	501
Flight Conducted Under:	Part 91: General Aviation - Flight Test		

Meteorological Information and Flight Plan

Observation Facility, Elevation:	LCK, 744 ft msl	Weather Information Source:	Weather Observation Facility
Conditions at Accident Site:	Visual Conditions	Lowest Ceiling:	None
Condition of Light:	Day	Wind Speed/Gusts, Direction:	6 knots, 80°
Temperature:	29° C / 18° C	Visibility	7 Miles
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Columbus, OH (LCK)	Destination:	Mansfield, OH (MFD)

Airport Information

Airport:	Rickenbacker International (LCK)	Runway Surface Type:	Asphalt
Runway Used:	5L	Runway Surface Condition:	Dry
Runway Length/Width:	11937 ft / 150 ft		

Wreckage and Impact Information

Crew Injuries:	3 Fatal	Aircraft Damage:	Destroyed
Passenger Injuries:	N/A	Aircraft Fire:	On-Ground
Ground Injuries:	N/A	Aircraft Explosion:	None

Administrative Information

Investigator In Charge (IIC):	James P Silliman	Adopted Date:	06/22/2009
Investigation Docket:	NTSB accident and incident dockets serve as permanent archival information for the NTSB's investigations. Dockets released prior to June 1, 2009 are publicly available from the NTSB's Record Management Division at pubinq@ntsb.gov , or at 800-877-6799. Dockets released after this date are available at http://dms.nts.gov/pubdms/ .		

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