



National Transportation Safety Board Aviation Accident Final Report

Location:	CLEVELAND, OH	Accident Number:	NYC93FA044
Date & Time:	12/15/1992, 0912 EST	Registration:	N706M
Aircraft:	BEECH 18T	Aircraft Damage:	Destroyed
Defining Event:		Injuries:	1 Fatal

Flight Conducted Under: Part 91: General Aviation - Positioning

Analysis

AFTER ROTATION, DURING THE INITIAL CLIMB, THE NOSE OF THE AIRPLANE PITCHED UP TO APPROXIMATELY 60 DEGREES ABOVE THE HORIZON. THE AIRPLANE CONTINUED TO CLIMB UNTIL ABOUT 250 FEET ABOVE THE GROUND, THEN ROLLED RIGHT, PITCHED DOWN AND DESCENDED. THE AIRPLANE IMPACTED THE GROUND, APPROXIMATELY 45 DEGREES NOSE DOWN, 650 FEET TO THE RIGHT OF THE RUNWAY. POST ACCIDENT INVESTIGATION OF THE WRECKAGE REVEALED THE ELEVATOR JAMMED IN THE FULL UP DEFLECTION. THE UPPER END OF THE ELEVATOR CONTROL ROD WAS FOUND NOT CONNECTED TO THE ELEVATOR, BUT WAS FOUND LAYING AFT, WEDGED BETWEEN THE TAIL CONE AND THE ELEVATOR FARING, HOLDING THE ELEVATOR IN THE FULL UP POSITION. THE CONTROL ROD CONNECTING BOLT WAS FOUND LAYING IN THE BOTTOM OF THE TAIL CONE UNDEAMAGED. THE WASHER, NUT AND COTTER PIN RELATED TO THE CONTROL ROD CONNECTING BOLT WERE NOT FOUND. THE ELEVATOR HAD BEEN REMOVED, RECOVERED AND THEN INSTALLED BY COMPANY MAINTENANCE PERSONNEL 166 FLIGHT HOURS PRIOR TO THE ACCIDENT.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: THE IMPROPER INSTALLATION OF THE ELEVATOR BY COMPANY MAINTENANCE PERSONNEL AND THE LACK OF PROPER INSPECTIONS BY A COMPANY CERTIFIED MECHANIC/INSPECTOR AND THE FAA CERTIFIED MECHANIC WITH INSPECTOR AUTHORIZATION. A FACTOR IN THIS ACCIDENT WAS AN INSUFFICIENTLY DEFINED MAINTENANCE PROCEDURES THAT ALLOWED MULTIPLE MAINTENANCE TASKS TO BE COMBINED INTO A SINGLE LINE ENTRY.

Findings

Occurrence #1: LOSS OF CONTROL - IN FLIGHT
Phase of Operation: TAKEOFF - INITIAL CLIMB

Findings

1. (F) FLIGHT CONTROL,ELEVATOR ATTACHMENT - IMPROPER
2. (C) MAINTENANCE,INSTALLATION - IMPROPER - COMPANY MAINTENANCE PERSONNEL
3. (C) MAINTENANCE,INSPECTION - NOT PERFORMED - COMPANY MAINTENANCE PERSONNEL
4. (F) CONDITION(S)/STEP(S) INSUFFICIENTLY DEFINED - COMPANY MAINTENANCE PERSONNEL
5. FLIGHT CONTROL,ELEVATOR - JAMMED

Occurrence #2: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: DESCENT - UNCONTROLLED

Factual Information

Pilot Information

Certificate:	Airline Transport; Flight Instructor; Commercial	Age:	34, Male
Airplane Rating(s):	Multi-engine Land; Single-engine Land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	Seatbelt, Shoulder harness
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	Airplane Multi-engine; Airplane Single-engine; Instrument Airplane	Toxicology Performed:	Yes
Medical Certification:	Class 1 Valid Medical--no waivers/lim.	Last FAA Medical Exam:	03/23/1992
Occupational Pilot:		Last Flight Review or Equivalent:	
Flight Time:	4768 hours (Total, all aircraft), 91 hours (Total, this make and model), 3832 hours (Pilot In Command, all aircraft), 123 hours (Last 90 days, all aircraft), 53 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	BEECH	Registration:	N706M
Model/Series:	18T 18T	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Normal; Utility	Serial Number:	12360
Landing Gear Type:	Retractable - Tricycle	Seats:	2
Date/Type of Last Inspection:	12/07/1992, AAIP	Certified Max Gross Wt.:	11500 lbs
Time Since Last Inspection:	9 Hours	Engines:	2 Turbo Prop
Airframe Total Time:	16115 Hours	Engine Manufacturer:	GARRETT
ELT:	Installed, activated, did not aid in locating accident	Engine Model/Series:	TPE-331-1
Registered Owner:	MOHICAN AIR SERVICE INC	Rated Power:	665 hp
Operator:	MOHICAN AIR SERVICE INC	Operating Certificate(s) Held:	On-demand Air Taxi (135)

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	CLE, 792 ft msl	Distance from Accident Site:	1 Nautical Miles
Observation Time:	0925 EST	Direction from Accident Site:	300°
Lowest Cloud Condition:	Scattered / 15000 ft agl	Visibility	7 Miles
Lowest Ceiling:	None / 0 ft agl	Visibility (RVR):	0 ft
Wind Speed/Gusts:	9 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	180°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30 inches Hg	Temperature/Dew Point:	4° C / -1° C
Precipitation and Obscuration:			
Departure Point:	(CLE)	Type of Flight Plan Filed:	IFR
Destination:	SYRACUSE, NY (SYR)	Type of Clearance:	IFR
Departure Time:	0911 EST	Type of Airspace:	Class D; Class E

Airport Information

Airport:	CLEVELAND-HOPKINS (CLE)	Runway Surface Type:	Asphalt
Airport Elevation:	792 ft	Runway Surface Condition:	Dry
Runway Used:	23	IFR Approach:	None
Runway Length/Width:	7096 ft / 150 ft	VFR Approach/Landing:	None

Wreckage and Impact Information

Crew Injuries:	1 Fatal	Aircraft Damage:	Destroyed
Passenger Injuries:	N/A	Aircraft Fire:	On-Ground
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Fatal	Latitude, Longitude:	

Administrative Information

Investigator In Charge (IIC):	ROBERT L PEARCE	Report Date:	09/14/1993
Additional Participating Persons:	JAMES DAVIDSON; CLEVELAND, OH PETER B BAKER; PHOENIX, AZ JAMES E STERMER; WICHITA, KS		
Publish Date:			
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/ .		

The National Transportation Safety Board (NTSB), established in 1967, is an independent federal agency mandated by Congress through the Independent Safety Board Act of 1974 to investigate transportation accidents, determine the probable causes of the accidents, issue safety recommendations, study transportation safety issues, and evaluate the safety effectiveness of government agencies involved in transportation. The NTSB makes public its actions and decisions through accident reports, safety studies, special investigation reports, safety recommendations, and statistical reviews.

The Independent Safety Board Act, as codified at 49 U.S.C. Section 1154(b), precludes the admission into evidence or use of any part of an NTSB report related to an incident or accident in a civil action for damages resulting from a matter mentioned in the report. A factual report that may be admissible under 49 U.S.C. § 1154(b) is available [here](#).