



Aviation Investigation Final Report

Location:	HYANNIS, Massachusetts	Accident Number:	NYC89LA081
Date & Time:	February 4, 1989, 12:40 Local	Registration:	N49PB
Aircraft:	CESSNA 402B	Aircraft Damage:	Substantial
Defining Event:		Injuries:	10 None
Flight Conducted Under:	Part 135: Air taxi & commuter - Non-scheduled		

Analysis

NINE MEMBERS OF A VARSITY BASKETBALL TEAM BOARDED THE ACFT W/O THE PLT GETTING ACCURATE PASSENGER WEIGHTS & THE BAGGAGE WAS PLACED IN THE AFT BAGGAGE COMPARTMENT. AS THE PLT ENTERED THE CABIN & WAS CLOSING THE DOOR, THE TAIL OF THE ACFT FELL HARD TO THE RAMP. THE PLT RAISED THE TAIL & ELECTED TO CONT THE FLT. AFTER REBOARDING, HE TAXIED TO THE RUNWAY & BEGAN THE TAKEOFF. AS THE ACFT WAS CLIMBING THRU APRX 200 TO 400 FT AGL, THE PLT ANNOUNCED THERE WAS A PROBLEM & ASKED THE PASSENGERS TO MOVE FORWARD. AT THAT TIME, THE NOSE OF THE ACFT WAS HIGHER THAN NORMAL & THE STALL WARNING HORN SOUNDED. THE PASSENGERS MOVED AS FAR FORWARD AS FEASIBLE & STAYED THERE UNTIL AFTER THE ACFT WAS LANDED. A POST-FLT EXAM OF THE ACFT REVEALED A STRINGER, REAR BULKHEAD, ELEVATOR CONTROL TUBE & THE HOUSING FOR THE TAIL NAVIGATION LIGHT WERE DAMAGED. NO BALLAST WAS INSTALLED IN THE FORWARD BAGGAGE COMPARTMENT. A RECALCULATION OF THE AIRCRAFT'S WEIGHT & BALANCE, USING THE ACTUAL WEIGHTS OF THE PASSENGERS, REVEALED THE CENTER-OF-GRAVITY (CG) WAS BEHIND THE AFT LIMIT.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: INADEQUATE PREFLIGHT PLANNING AND PREPARATION BY THE PILOT WHICH RESULTED IN IMPROPER WEIGHT AND BALANCE (AFT CG). THE AFT CG ALSO CONTRIBUTED TO THE UNCOMMANDED ALTITUDE DEVIATION AFTER TAKEOFF.

Findings

Occurrence #1: MISCELLANEOUS/OTHER

Phase of Operation: STANDING

Findings

1. (C) PREFLIGHT PLANNING/PREPARATION - INADEQUATE - PILOT IN COMMAND
2. (C) AIRCRAFT WEIGHT AND BALANCE - IMPROPER - PILOT IN COMMAND
3. FUSELAGE,BULKHEAD - FAILURE,PARTIAL
4. FLT CONTROL SYST,ELEVATOR CONTROL CABLE/ROD - FAILURE,PARTIAL

Occurrence #2: ALTITUDE DEVIATION,UNCONTROLLED

Phase of Operation: TAKEOFF - INITIAL CLIMB

Factual Information

Pilot Information

Certificate:	Airline transport; Commercial	Age:	49, Male
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):		Restraint Used:	
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 1 Valid Medical--no waivers/lim.	Last FAA Medical Exam:	October 25, 1988
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	
Flight Time:	9978 hours (Total, all aircraft), 525 hours (Total, this make and model)		

Aircraft and Owner/Operator Information

Aircraft Make:	CESSNA	Registration:	N49PB
Model/Series:	402B 402B	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	402B1361
Landing Gear Type:	Retractable - Tricycle	Seats:	10
Date/Type of Last Inspection:	February 3, 1989 Unknown	Certified Max Gross Wt.:	6300 lbs
Time Since Last Inspection:		Engines:	2 Reciprocating
Airframe Total Time:	5150 Hrs	Engine Manufacturer:	CONTINENTAL
ELT:	Installed, not activated	Engine Model/Series:	TSIO-520-E
Registered Owner:		Rated Power:	300 Horsepower
Operator:	SPECTRUM AIRLINES	Operating Certificate(s) Held:	On-demand air taxi (135)
Operator Does Business As:		Operator Designator Code:	

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:		Distance from Accident Site:	
Observation Time:		Direction from Accident Site:	
Lowest Cloud Condition:	Clear	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	10 knots / 15 knots	Turbulence Type Forecast/Actual:	/
Wind Direction:	350°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:		Temperature/Dew Point:	7°C / -18°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	(HYA)	Type of Flight Plan Filed:	Company VFR
Destination:	NANTUCKET , MA (ACK)	Type of Clearance:	None
Departure Time:	12:40 Local	Type of Airspace:	Class G

Airport Information

Airport:	BARNSTABLE MUNI HYA	Runway Surface Type:	
Airport Elevation:	52 ft msl	Runway Surface Condition:	
Runway Used:	0	IFR Approach:	None
Runway Length/Width:		VFR Approach/Landing:	Precautionary landing

Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Substantial
Passenger Injuries:	9 None	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	10 None	Latitude, Longitude:	

Administrative Information

Investigator In Charge (IIC): Twinejr., Chauncey

Additional Participating Persons: ; BEDFORD , MA

Original Publish Date: April 24, 1990

Last Revision Date:

Investigation Class: [Class](#)

Note:

Investigation Docket: <https://data.nts.gov/Docket?ProjectID=36376>

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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](#).