



National Transportation Safety Board Aviation Accident Final Report

Location:	WEST COLUMBIA, SC	Accident Number:	ATL88FA186
Date & Time:	05/25/1988, 2106 EDT	Registration:	N8493A
Aircraft:	CESSNA 402B	Aircraft Damage:	Destroyed
Defining Event:		Injuries:	1 Fatal
Flight Conducted Under:	Part 135: Air Taxi & Commuter - Non-scheduled		

Analysis

THE AIRPLANE USED ABOUT 1/2 OF THE 8,602 FT RWY FOR THE T/O ROLL. AFTER T/O IT PITCHED NOSE-DOWN BRIEFLY OVER THE RWY DURING INIT CLIMB. THE PLT RADIOED THAT HE WAS HAVING A PROBLEM WITH THE ELEVATOR WHICH REQUIRED 'FULL BACK PRESSURE' TO KEEP THE NOSE UP, AND THAT HE WAS RETURNING TO LAND. AFTER MANEUVERING AROUND THE ARPT, THE ACFT PITCHED 70-80 DEG NOSE DN AND DOVE INTO TERRAIN OFF THE APPCH END OF THE RWY. THE WRECKAGE EXAM REVEALED THAT THE BOLT SECURING THE ELEVATOR TRIM TAB PUSHROD TO THE ACTUATOR WAS MISSING. THE ROD HAD BECOME WEDGED INSIDE THE ELEVATOR WHICH RESULTED IN AN EXTREME TAB UP (NOSE DN) CONDITION. THE ACFT UNDERWENT AN ANNUAL INSP 2 DAYS/5 FLT HRS EARLIER. THE IA MECH RPTD THAT NO MAINT WAS PERFORMED ON THE TAB SYS, AND THAT HE WAS CERTAIN THE BOLT WAS PROPERLY SAFETIED. ANOTHER PLT WHO FLEW THE ACFT THE DAY OF THE ACCIDENT RPTD THAT HE FOUND THE PUSHROD TO BE SECURE DURING HIS PREFLT INSP. THE 402B POH INDICATED THAT THE ACFT SHOULD HAVE REQ ABOUT 1,200 FT FOR THE T/O GROUND ROLL.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

Findings

Occurrence #1: AIRFRAME/COMPONENT/SYSTEM FAILURE/MALFUNCTION
Phase of Operation: TAKEOFF

Findings

1. (C) FLT CONTROL SYST,ELEVATOR TRIM/TAB CONTROL - DISCONNECTED
2. (C) AIRCRAFT PREFLIGHT - INADEQUATE - PILOT IN COMMAND
3. (C) FLIGHT CONTROL,ELEVATOR TAB - JAMMED
4. (F) ABORTED TAKEOFF - NOT PERFORMED - PILOT IN COMMAND

Occurrence #2: LOSS OF CONTROL - IN FLIGHT
Phase of Operation: MANEUVERING

Occurrence #3: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: DESCENT - UNCONTROLLED

Factual Information

Pilot Information

Certificate:	Flight Instructor; Commercial	Age:	23, Male
Airplane Rating(s):	Multi-engine Land; Single-engine Land	Seat Occupied:	Unknown
Other Aircraft Rating(s):	None	Restraint Used:	
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	Yes
Medical Certification:	Class 1 Valid Medical--no waivers/lim.	Last FAA Medical Exam:	10/27/1987
Occupational Pilot:		Last Flight Review or Equivalent:	
Flight Time:	1400 hours (Total, all aircraft), 160 hours (Total, this make and model), 1255 hours (Pilot In Command, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	CESSNA	Registration:	N8493A
Model/Series:	402B 402B	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Normal	Serial Number:	402B0236
Landing Gear Type:	Retractable - Tricycle	Seats:	2
Date/Type of Last Inspection:	05/23/1988, Annual	Certified Max Gross Wt.:	6300 lbs
Time Since Last Inspection:	5 Hours	Engines:	2 Reciprocating
Airframe Total Time:	5672 Hours	Engine Manufacturer:	CONTINENTAL
ELT:	Installed, not activated	Engine Model/Series:	TSIO-520-E
Registered Owner:	SKYGO, INC	Rated Power:	300 hp
Operator:	NAPIER AIR SERVICE, INC.	Operating Certificate(s) Held:	On-demand Air Taxi (135)
Operator Does Business As:		Operator Designator Code:	EUUA

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Dusk
Observation Facility, Elevation:	CAE, 2 ft msl	Distance from Accident Site:	1 Nautical Miles
Observation Time:	2112 EDT	Direction from Accident Site:	110°
Lowest Cloud Condition:	Scattered / 4000 ft agl	Visibility	10 Miles
Lowest Ceiling:	Broken / 7500 ft agl	Visibility (RVR):	0 ft
Wind Speed/Gusts:	10 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	70°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29 inches Hg	Temperature/Dew Point:	18° C / 16° C
Precipitation and Obscuration:			
Departure Point:		Type of Flight Plan Filed:	IFR
Destination:	ATLANTA, GA (ATL)	Type of Clearance:	IFR
Departure Time:	2103 EDT	Type of Airspace:	Class D

Airport Information

Airport:	COLUMBIA METRO (CAE)	Runway Surface Type:	Asphalt
Airport Elevation:	236 ft	Runway Surface Condition:	Dry
Runway Used:	11	IFR Approach:	None
Runway Length/Width:	8602 ft / 150 ft	VFR Approach/Landing:	Traffic Pattern

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):	SCOTT STRICKLAND	Report Date:	12/06/1989
Additional Participating Persons:	THOMAS CONWAY; WEST COLUMBIA, SC DAVID SEXTON; WEST COLUMBIA, SC JOHN MOELLER; MOBILE, AL STEVE ALSOBROOK		
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/ .		

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