



Aviation Investigation Final Report

Location:	ELIZABETH, Colorado	Accident Number:	DEN90LA098
Date & Time:	April 21, 1990, 17:00 Local	Registration:	N6641B
Aircraft:	CESSNA 310B	Aircraft Damage:	Substantial
Defining Event:		Injuries:	3 None
Flight Conducted Under:	Part 91: General aviation - Instructional		

Analysis

THE COMMERCIAL, (CFI), PILOT WAS PERFORMING A TRAINING FLIGHT. DURING SINGLE ENGINE TRAINING, THE LEFT PROPELLER BEGAN AN UNCOMMANDED RETURN TO FLAT PITCH. THE CFI TOOK THE CONTROLS, MADE A PRECAUTIONARY LANDING, AND INSPECTED THE PROPELLER. AFTER AN EXTENSIVE RUNUP, THE CFI ELECTED TO ATTEMPT A TAKEOFF FROM A NEARBY DIRT ROAD. DURING INITIAL CLIMB, AT 20 FEET AGL, THE LEFT PROPELLER WENT INTO FLAT PITCH, CAUSED THE PLANE TO YAW TO THE LEFT, THE LEFT WING DROPPED AND THE PLANE LANDED HARD, WITH THE GEAR RETRACTED. THE LANDING GEAR, BOTH WINGS, AND THE GUSSELAGE WERE BENT AND TWISTED. THE LEFT PROPELLER DOME SHOWED EVIDENCE OF OIL LEAKAGE OVER A PERIOD OF TIME. THE LEFT ENGINE CONTAINED 3 QUARTS OF OIL, WHICH WAS BELOW THE MINIMUM LEVEL. ONE PROPELLER BLADE ON THE LEFT ENGINE HAD A BROKEN PITCH CHANGE LINK. THE DOME WAS EXTENSIVELY CRACKED AND HAD BEGUN TO DISINTEGRATE.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: THE PILOT'S ATTEMPT TO TAKEOFF WITH A KNOWN DEFICIENCY AND THE PARTIAL FAILURE OF THE PROPELLER FEATHERING SYSTEM.

Findings

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

Findings

1. PROPELLER SYSTEM/ACCESSORIES,FEATHERING SYSTEM - FAILURE,PARTIAL
2. PRECAUTIONARY LANDING - PERFORMED - PILOT IN COMMAND(CFI)

Occurrence #2: AIRFRAME/COMPONENT/SYSTEM FAILURE/MALFUNCTION

Phase of Operation: TAKEOFF - INITIAL CLIMB

Findings

3. (C) PROPELLER SYSTEM/ACCESSORIES,FEATHERING SYSTEM - FAILURE,PARTIAL
4. (C) OPERATION WITH KNOWN DEFICIENCIES IN EQUIPMENT - ATTEMPTED - PILOT IN COMMAND
5. PROPELLER SYSTEM/ACCESSORIES,DOME - CRACKED

Occurrence #3: LOSS OF CONTROL - IN FLIGHT

Phase of Operation: TAKEOFF - INITIAL CLIMB

Occurrence #4: IN FLIGHT COLLISION WITH TERRAIN/WATER

Phase of Operation: DESCENT - UNCONTROLLED

Findings

6. TERRAIN CONDITION - OPEN FIELD
7. TERRAIN CONDITION - ROUGH/UNEVEN

Factual Information

Pilot Information

Certificate:	Commercial; Flight instructor	Age:	49, Male
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Right
Other Aircraft Rating(s):	None	Restraint Used:	
Instrument Rating(s):	Airplane	Second Pilot Present:	Yes
Instructor Rating(s):	Airplane multi-engine; Airplane single-engine	Toxicology Performed:	No
Medical Certification:	Class 2 Valid Medical--no waivers/lim.	Last FAA Medical Exam:	June 1, 1989
Occupational Pilot:	UNK	Last Flight Review or Equivalent:	
Flight Time:	2600 hours (Total, all aircraft), 96 hours (Total, this make and model), 2582 hours (Pilot In Command, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	CESSNA	Registration:	N6641B
Model/Series:	310B 310B	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:		Serial Number:	35741
Landing Gear Type:	Retractable - Tricycle	Seats:	5
Date/Type of Last Inspection:	October 25, 1989 100 hour	Certified Max Gross Wt.:	4990 lbs
Time Since Last Inspection:	77 Hrs	Engines:	2 Reciprocating
Airframe Total Time:	4625 Hrs	Engine Manufacturer:	CONTINENTAL
ELT:	Installed, not activated	Engine Model/Series:	O-470-M
Registered Owner:		Rated Power:	240 Horsepower
Operator:	PREFERRED AVITATION, LTD.	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:	Day
Observation Facility, Elevation:		Distance from Accident Site:	
Observation Time:		Direction from Accident Site:	
Lowest Cloud Condition:	Unknown	Visibility	50 miles
Lowest Ceiling:	Broken / 5000 ft AGL	Visibility (RVR):	
Wind Speed/Gusts:	/	Turbulence Type Forecast/Actual:	/
Wind Direction:	0°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:		Temperature/Dew Point:	-18°C / -18°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	DENVER , CO (APA)	Type of Flight Plan Filed:	None
Destination:	(APA)	Type of Clearance:	None
Departure Time:	15:00 Local	Type of Airspace:	

Airport Information

Airport:	NONE	Runway Surface Type:	Grass/turf
Airport Elevation:		Runway Surface Condition:	Dry
Runway Used:	0	IFR Approach:	None
Runway Length/Width:		VFR Approach/Landing:	Forced landing

Wreckage and Impact Information

Crew Injuries:	2 None	Aircraft Damage:	Substantial
Passenger Injuries:	1 None	Aircraft Fire:	Unknown
Ground Injuries:	N/A	Aircraft Explosion:	Unknown
Total Injuries:	3 None	Latitude, Longitude:	39.359973,-104.600952(est)

Administrative Information

Investigator In Charge (IIC): Collins, Robert

Additional Participating Persons: GLEN WHITEFIELD;

Original Publish Date: September 28, 1992

Last Revision Date:

Investigation Class: [Class](#)

Note:

Investigation Docket: <https://data.ntsb.gov/Docket?ProjectID=17923>

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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](#).