



National Transportation Safety Board Aviation Accident Final Report

Location:	Brevard, NC	Accident Number:	MIA03LA021
Date & Time:	12/01/2002, 1025 EST	Registration:	N3529F
Aircraft:	Cessna 182J	Aircraft Damage:	Substantial
Defining Event:		Injuries:	3 Serious
Flight Conducted Under:	Part 91: General Aviation - Personal		

Analysis

According to the pilot during the takeoff roll the control yoke would not pull back to become airborne. He aborted the takeoff, at a point about two-thirds of the way down the 2,903-foot runway, and applied the brakes. The airplane departed the departure end of the runway, hit a ditch, and turned about 180 degrees opposite the direction of travel. Examination of the airplane's controls revealed control continuity to the ailerons and rudder. Elevator continuity was confirmed up to the baggage compartment. Due to impact damage to the forward fuselage area, continuity could not be confirmed to the yoke assembly. The bent control lock pin was found on the floorboard between the seats.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: the jamming of the elevator control system for undetermined reason, which resulted in the airplane departing the runway, and impacting with a ditch, during the aborted takeoff.

Findings

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

Findings

1. (C) FLT CONTROL SYST, YOKE/CONTROL STICK - UNDETERMINED

Occurrence #2: ON GROUND/WATER ENCOUNTER WITH TERRAIN/WATER
Phase of Operation: TAKEOFF - ABORTED

Findings

2. TERRAIN CONDITION - DITCH

Factual Information

On December 1, 2002, about 1025 eastern standard time, a Cessna 182J, N3529F, registered to and operated by an individual, impacted with a ditch during an aborted takeoff at the Transylvania County Airport, Brevard, North Carolina. Visual meteorological conditions prevailed at the time and no flight plan was filed for the 14 CFR Part 91 personal flight. The airplane was substantially damaged. The private-rated pilot, and two passengers reported serious injuries. The flight was originating at the time, and was en route to Birmingham, Alabama.

According to the pilot, he performed "a thorough pre-flight inspection and he checked the flight controls for freedom of movement." He added power for takeoff on runway 27, which was 2,900 feet long. Upon passing a taxiway located about 2/3 down the runway, he attempted to rotate and was unable to pull back on the yoke, and applied the brakes. He was unable to bring the aircraft to a stop prior to departing the departure end of the runway, struck a ditch, railroad embankment, and turned about 180 degrees opposite the direction of travel.

According to the FAA inspector's statement the airplane skidded off the end of the runway, and about 1,500 feet of skid marks were noted. Examination of the airplane's controls revealed that control continuity was "verified" to ailerons and rudder. Elevator continuity was confirmed up to the baggage compartment. The aircraft nose section and firewall were crushed, reducing the cabin volume in the rudder pedal area. The control yoke could not be moved and the control lock hole did not line up with the hole in the control yoke sleeve. The control lock was observed on the floor between the front seats. The right main landing gear and the nose gear had severed. No obvious evidence of an engine malfunction was observed and the pilot reported the engine was operating normally during the entire event.

According to Cessna's report to the NTSB, the wreckage was viewed in a hangar at the mishap airport. Examination of the fuselage revealed that the firewall was buckled up and aft at the bottom, impinging into the passenger compartment. Other than the firewall damage, the cabin environment was not compromised. No evidence of fire was observed. Flight control cable continuity was confirmed from the empennage to the crushed section of the fuselage. Moving the right aileron up produced movement in the left control yoke. No such movement was observed when moving the left aileron in either direction or the right aileron upwards. The right control yoke was observed to be broken off at its attach point. The aircraft had been modified by installation of a Robertson STOL kit, which included STOL fences (painted the same color as the wing, and leading edge cuffs (bare aluminum). The system was said to have included the "drooping aileron" option. The control lock had a small red flag and the pin portion showed some polishing of the pin. The control lock pin was not straight. In the post recovery position, the hole in the control column did not line up with the hole for the control lock. The pilot stated he would normally store the control lock between the front seats. The control lock was observed on the floor between the two front seats. The elevator control cables were observed to be binding in the forward lower floor structure, which was crushed by impact. The control cables were traced through the airframe and appeared to be properly routed and attached to the rear bellcrank.

Pilot Information

Certificate:	Private	Age:	59, Male
Airplane Rating(s):	Single-engine Land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	Seatbelt, Shoulder harness
Instrument Rating(s):	None	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 3 Valid Medical--w/ waivers/lim.	Last FAA Medical Exam:	12/28/2000
Occupational Pilot:		Last Flight Review or Equivalent:	10/28/2001
Flight Time:	800 hours (Total, all aircraft), 370 hours (Total, this make and model), 25 hours (Last 90 days, all aircraft), 15 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	Registration:	N3529F
Model/Series:	182J	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Normal	Serial Number:	182-51529
Landing Gear Type:	Tricycle	Seats:	4
Date/Type of Last Inspection:	08/28/2002, Annual	Certified Max Gross Wt.:	2800 lbs
Time Since Last Inspection:	25 Hours	Engines:	1 Reciprocating
Airframe Total Time:	4024.2 Hours at time of accident	Engine Manufacturer:	Continental
ELT:	Installed, not activated	Engine Model/Series:	O-470-R
Registered Owner:	Olen Reid	Rated Power:	230 hp
Operator:	Olen Reid	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	KAVL, 2165 ft msl	Distance from Accident Site:	25 Nautical Miles
Observation Time:	0954 EST	Direction from Accident Site:	10°
Lowest Cloud Condition:	Clear	Visibility	10 Miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	14 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	360°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30.08 inches Hg	Temperature/Dew Point:	3°C / 11°C
Precipitation and Obscuration:			
Departure Point:	Brevard, NC	Type of Flight Plan Filed:	VFR
Destination:	Alabaster, AL (EET)	Type of Clearance:	None
Departure Time:	0925 EST	Type of Airspace:	Unknown

Airport Information

Airport:	Transylvania County (22W)	Runway Surface Type:	Asphalt
Airport Elevation:	2110 ft	Runway Surface Condition:	Dry
Runway Used:	27	IFR Approach:	None
Runway Length/Width:	2903 ft / 50 ft	VFR Approach/Landing:	None

Wreckage and Impact Information

Crew Injuries:	1 Serious	Aircraft Damage:	Substantial
Passenger Injuries:	2 Serious	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	3 Serious	Latitude, Longitude:	35.270278, -82.477500

Administrative Information

Investigator In Charge (IIC):	Alan J Yurman	Report Date:	03/30/2004
Additional Participating Persons:	Edward Shields; FAA; Charlotte, NC Emile Lohman; Cessna; 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 pubinquiry@ntsb.gov , or at 800-877-6799. Dockets released after this date are available at http://dms.nts.gov/pubdms/ .		

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