Aviation Investigation Final Report

Location:	Adelanto, California	**Accident Number:**	LAX05FA079
Date & Time:	January 31, 2005, 12:19 Local	**Registration:**	N2882A
Aircraft:	Cessna 180	**Aircraft Damage:**	Substantial
Defining Event:		**Injuries:**	1 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The airplane collided with terrain following a loss of control during an attempted go-around. This was the pilot's first landing at the airport. The pilot flew the airplane upwind on the northern side of the runway, crossed midfield, and turned downwind for left traffic on runway 25. There was a quartering tailwind from the pilot's right side. A witness said that the airplane appeared stable as it was on downwind, on the base leg, and on final. The witness lost sight of the airplane as it descended below the horizon. He then heard the engine power up. As he reacquired the airplane, he noted that the nose was up much higher than he normally sees airplanes on climb out. The wings were rocking left and right. The airplane rolled about 45 degrees left, and the nose started to fall. The last time that the witness saw the airplane, it was still in a 45-degree left bank, and the nose was falling level with the horizon. The engine sound stopped as he heard a thud. He said that the engine sounded strong until the thud, and it did not sputter or backfire. The pilot did not hold a current medical certificate.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's failure to maintain sufficient airspeed to avoid a stall during an attempted go-around, resulting in a loss of control and collision with terrain.

Findings

Occurrence #1: LOSS OF CONTROL - IN FLIGHT
Phase of Operation: GO-AROUND (VFR)

Findings
1. (C) AIRSPEED(VS) - NOT MAINTAINED - PILOT IN COMMAND
2. (C) STALL - INADVERTENT - PILOT IN COMMAND

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

Findings
3. TERRAIN CONDITION - GROUND

Factual Information

HISTORY OF FLIGHT

On January 31, 2005, about 1219 Pacific standard time, a Cessna 180, N2882A, collided with terrain near Adelanto, California. The pilot/owner was operating the airplane under the provisions of 14 CFR Part 91. The private pilot, the sole occupant, sustained fatal injuries; the airplane sustained substantial damage. The personal flight departed from an unknown location, at an unknown time, with Adelanto as the planned destination. Visual meteorological conditions prevailed, and no flight plan had been filed. The primary wreckage was at 34 degrees 32.104 minutes north latitude and 117 degrees 27.979 minutes west longitude.

A witness was about 1 mile away at a racetrack. He knew the pilot; he had recently been instrumental in the pilot's purchase of a hangar at the airport. The pilot was bringing the airplane to the airport, and the witness said that he believed that this was the pilot's first landing there.

The witness observed the airplane fly upwind on the northern side of the runway, cross midfield, and turn downwind for left traffic on runway 25. The witness reported that the pilot was landing with a quartering tailwind from the pilot's right side.

The airplane appeared stable as it was on downwind, on the base leg, and on final. The witness lost sight of the airplane as it descended below the horizon. He then heard the engine power up. As he reacquired the airplane, he noted that the nose was up much higher than he normally observes airplanes on climb out. The wings were rocking left and right. The airplane rolled about 45 degrees left, and the nose started to fall. The last time that he observed the airplane, it was still in a 45-degree left bank, and the nose was falling level with the horizon. Then the engine sounds stopped as he heard a thud. He said that the engine sounded strong until the thud, and it did not sputter or backfire.

PERSONNEL INFORMATION

A review of Federal Aviation Administration (FAA) airman records revealed that the pilot held a private pilot certificate with a rating for airplane single engine land. The last third-class medical certificate of record was issued on July 28, 1995. It had no limitations or waivers.

No personal flight records were located for the pilot. The Safety Board investigator-in-charge (IIC) obtained the aeronautical experience listed in this report from a review of the FAA airmen medical records on file in the Airman and Medical Records Center located in Oklahoma City, Oklahoma. The pilot reported on his medical application that he had a total time of 200 hours with 0 hours logged in the last 6 months.

AIRCRAFT INFORMATION

The airplane was a Cessna 180, serial number 30082. The IIC did not recover any logbooks for the airframe or engine. The tachometer read 273.25 at the accident scene; the Hobbs hour meter read 1,197.7. The engine was a Teledyne Continental Motors (TCM) O-470. Investigators did not locate a dataplate for the engine.

AIRPORT INFORMATION

FAA information indicated that runway 25 was 5,100 feet long and 100 feet wide. The runway surface was dirt.

WRECKAGE AND IMPACT INFORMATION

Investigators from the Safety Board, the FAA, and TCM examined the wreckage at the accident scene.

The accident site was in level desert terrain. The debris path was along a magnetic bearing of 180 degrees. All references to debris locations are from the first identified point of contact (FIPC) and left or right of the debris path centerline.

The FIPC was a 33-foot-long ground scar that widened from 1-inch at the beginning to a maximum of 6 inches within several feet. Investigators located green lens fragments on the right side at the end of the ground scar.

A few feet further and several feet left was the principal impact crater (PIC). The PIC was about 18 feet long, 4 feet wide, and 1 foot deep in loose sand. Its center was about 45 feet from the FIPC. The end of the PIC contained the right wing tip and the outboard 12 inches of the right aileron.

Another ground scar began 66 feet from the FIPC and about 10 feet left. This ground scar was continuous to the left wing tip. The displaced red lens cap was near the ground scar and several feet forward of the left wing.

The airplane came to rest inverted about 100 feet from the FIPC on the debris path centerline. The nose pointed about 030 degrees. The right main landing gear separated, and was about 10 feet in front of the nose. The engine compartment exhibited permanent deformation about 45 degrees up and also bent to the right. The outboard half of one propeller blade bent aft about 90 degrees, and twisted about 90 degrees toward the low pitch position. The outboard half of the other blade bent aft about 30 degrees, and twisted about 90 degrees toward the low pitch position

The outboard leading edges of both wings sustained aft crush damage. The right wing

damage was more severe than the left wing damage. The right wing tip sustained about 40 degrees of permanent up deformation. The left wing tip exhibited more damage on top of the wing and down deformation. A branch from a bush remained lodged in the top leading edge of the left wing.

The section of the left aileron outboard of the outer hinge buckled aft about 30 degrees. The left flap exhibited wavy deformation.

The fuselage buckled circumferentially aft of the cabin area.

The empennage skin completely separated circumferentially about 2 feet forward of the horizontal stabilizer; however, the internal cables and wiring remained attached. The separated tail section rotated 45 degrees counterclockwise from the fuselage, and was resting on the tip of the right horizontal stabilizer and the top of the vertical stabilizer.

MEDICAL AND PATHOLOGICAL INFORMATION

The San Bernarnadino County Coroner completed an autopsy. The FAA Bioaeronautical Sciences Research Laboratory, Oklahoma City, Oklahoma, performed toxicological testing of specimens of the pilot. Analysis of the specimens contained no findings for carbon monoxide, cyanide, volatiles, and tested drugs.

The Safety Board's Medical Officer examined the autopsy report and FAA airmen medical records, and prepared a factual report, which is part of the public docket for this accident. On the most recently documented medical application (almost 10 years prior to the accident), the pilot responded "no" to medications and all items under Medical History.

Family members informed the coroner that the pilot did not fly very often, because of a general deterioration of his health. He had diabetes mellitus, and had stents placed in his coronary arteries about 2 years prior to the accident. About that same time frame, he had been in a motorcycle accident.

The autopsy noted that the pilot's heart was 720 grams. There was marked atherosclerotic calcification with narrowing of the aortic valve. The coronary arteries on section showed severe atherosclerosis with extensive calcification and up to at least 80 percent focal luminal narrowing in the left anterior descending coronary artery and right coronary artery. The stents were not noted, possibly obscured by the calcification of the coronary arteries. The myocardium on section showed evidence of marked concentric left ventricular hypertrophy. It identified no infarcts.

TESTS AND RESEARCH

The FAA, Cessna, and TCM were parties to the investigation.

Investigators examined the wreckage at Aircraft Recovery Service, Littlerock, California, on February 1, 2005.

Both propeller blades exhibited s-bends and twisted toward the low pitch position.

Investigators removed the top spark plugs. All spark plugs were oval with no mechanical deformation. The spark plug electrodes were gray, which corresponded to normal operation according to the Champion Aviation Check-A-Plug AV-27 Chart, except for no. 3, which was oily.

Investigators manually rotated the crankshaft with the propeller. The crankshaft rotated freely, and the valves moved approximately the same amount of lift in firing order. Investigators obtained thumb compression on all cylinders in firing order.

Investigators manually rotated the magnetos, and both magnetos produced spark at all posts.

Investigators removed the carburetor. It contained a light brown fluid that smelled like automotive fuel. The throttle and mixture linkages traveled freely from stop to stop.

The fuel selector valve was in the BOTH position.

A certified copy of the airplane records from the FAA in Oklahoma City did not indicate that airplane had a supplemental type certificate (STC) allowing the use of automotive fuel.

Investigators established control continuity for the ailerons, elevators, and rudder. Examination of the airframe revealed that there was no back seat in the airplane. Investigators found a large (56.5 pounds) recreational vehicle type battery aft of the front right seat, which had a rectangular impression in the rear frame with dimensions similar to the battery. This battery was too big to fit within the airplane's battery box. The emergency locator transmitter battery expiration date was March 2001.

The airframe sustained mechanical damage and permanent deformation. The flap handle was bent, and the latch was out of the notch retainer. The manufacturer's representative could not determine the flap position. The representative determined that the airplane was within weight and balance limitations.

ADDITIONAL INFORMATION

The IIC released the wreckage to the owner's family on February 8, 2004.

Pilot Information

Certificate:	Private	**Age:**	67,Male
Airplane Rating(s):	Single-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	
Instrument Rating(s):	None	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	Yes
Medical Certification:	Class 3	**Last FAA Medical Exam:**	July 1, 1995
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:	200 hours (Total, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	**Registration:**	N2882A
Model/Series:	180	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	30082
Landing Gear Type:	Tricycle	**Seats:**	2
Date/Type of Last Inspection:	Unknown	**Certified Max Gross Wt.:**	2550 lbs
Time Since Last Inspection:		**Engines:**	1 Reciprocating
Airframe Total Time:		**Engine Manufacturer:**	Teledyne Continental
ELT:		**Engine Model/Series:**	O-470
Registered Owner:	Douglas R. Tiner	**Rated Power:**	230 Horsepower
Operator:		**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	VCV,2885 ft msl	**Distance from Accident Site:**	5 Nautical Miles
Observation Time:	11:45 Local	**Direction from Accident Site:**	90°
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	5 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	20°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30.23 inches Hg	**Temperature/Dew Point:**	12°C / -2°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Unknown	**Type of Flight Plan Filed:**	None
Destination:	Adelanto, CA	**Type of Clearance:**	None
Departure Time:		**Type of Airspace:**	

Airport Information

Airport:	Adelanto NONE	**Runway Surface Type:**	Dirt
Airport Elevation:		**Runway Surface Condition:**	Dry
Runway Used:	25	**IFR Approach:**	None
Runway Length/Width:	5100 ft / 100 ft	**VFR Approach/Landing:**	Full stop

Wreckage and Impact Information

Crew Injuries:	1 Fatal	**Aircraft Damage:**	Substantial
Passenger Injuries:		**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 Fatal	**Latitude, Longitude:**	34.534999,-117.476943

Administrative Information

Investigator In Charge (IIC):	Plagens, Howard
Additional Participating Persons:	James L Ferguson; Federal Aviation Administration Riverside FSDO; Riverside, CA Steve Miller; Cessna Aircraft Company; Wichita, KS Mike Grimes; Teledyne Continental Motors; Mobile, AL
Original Publish Date:	September 14, 2007
Last Revision Date:	
Investigation Class:	Class
Note:	The NTSB traveled to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=60933