



National Transportation Safety Board Aviation Accident Final Report

Location:	Venice, CA	Accident Number:	WPR10FA325
Date & Time:	07/01/2010, 1800 PDT	Registration:	N94838
Aircraft:	CESSNA 152	Aircraft Damage:	Substantial
Defining Event:	Loss of control in flight	Injuries:	1 Fatal
Flight Conducted Under:	Part 91: General Aviation - Personal		

Analysis

During the takeoff climb following a touch-and-go landing, the pilot communicated with a tower controller that he needed to return to the airport for landing, but did not indicate the type of problem. Witnesses observed the airplane make a 90-degree left turn and enter into a spiraling nose-dive before losing sight of it behind a tree line. The airplane subsequently impacted a copse of trees on a golf course. During the on-scene inspection, investigators identified all major flight controls of the airplane at the main wreckage area, and the smell of fuel was present at the accident site. The propeller separated from the propeller hub assembly and came to rest just forward of the main wreckage. One propeller blade had chordwise scratching with leading edge gouging; the other propeller blade was relatively undamaged. Both wings remained in their normal relative position and attached to the fuselage. The empennage section was twisted and folded over to the right. The tail section separated from the empennage, but remained attached via its control cables. All flight controls remained connected on site. The operator reported no mechanical problems in the weeks between the annual/100-hour inspections and the date of the accident. During the reconstruction investigators found no mechanical anomalies that would have precluded normal operation.

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 adequate airspeed and airplane control during initial climb, which resulted in an aerodynamic stall/spin and subsequent impact with the ground.

Findings

Aircraft	Airspeed - Not attained/maintained (Cause)
Personnel issues	Aircraft control - Pilot (Cause)

Factual Information

HISTORY OF FLIGHT

On July 1, 2010, about 1800 Pacific daylight time, a Cessna 152, N94838, crashed into Penmar Golf Course in Venice, California. The pilot rented the airplane from Justice Aviation, Santa Monica Airport (SMO), Santa Monica, California, and operated the personal local area flight under 14 Code of Federal Regulations Part 91. The commercial certificated pilot, the sole occupant, sustained fatal injuries; the airplane sustained substantial damage. Visual meteorological conditions prevailed for the flight, and no flight plan had been filed. The flight was departing at the time of the accident.

According to one witness at the airport positioned atop the Typhoon Restaurant, he watched as the airplane crossed normally over the threshold for runway 21; the restaurant is about 1/3 of the way down the runway. The witness reported that the airplane flared higher than what he thought was normal, about 30 feet above ground level (agl). The airplane landed hard, and the witness thought that the tail tie-down hook may have impacted the runway. As the airplane continued to roll down the runway, he stated that he heard "minimal application of [the] throttle," but not what he would have considered full power. The witness stated that the nose wheel lifted off the ground about three times before it eventually remained off the ground; he also reported that the flap setting was at least 10 to 20 degrees of flaps down. As the airplane traveled down the runway about another 1,000 feet, it departed the runway, and was in a "shallow and slow climb." The witness estimated the airplane's height from his vantage point as about 300 feet agl, when it crossed the end of the airport; the wings were level, but there was a slight yaw to the right. He momentarily turned away, and when he looked back, he saw the right wing rising rapidly as the airplane rolled steeply to the left. The airplane entered into a tight left spiraling dive, and then disappeared from his view.

Additional witnesses located at the restaurant observed the airplane land and then takeoff again. It was climbing slowly, and seemed to be quiet in contrast to other airplanes. They estimated the altitude to be between 150 to 200 feet above the ground. They watched as the airplane turned to the left, and then dive and spiral toward the ground. One of the witnesses stated that the airplane landed about 200 feet past the 1,000-foot marker with the flaps fully extended. This witness indicated that the airplane suddenly "lurched into ground-effect." He thought it might be a soft field takeoff. The witness further stated that the airplane then started a "slow and very labored climb," flaps were still out and with a partial power setting. He momentarily turned away; when he looked back the airplane entered into a left spin and dove towards the golf course. He estimated the airplane's height to be no more than 300 feet above the ground. Another witness reported that she saw the airplane executing a tight turn to return to the airport. The airplane was turned at a "pretty low rate of speed," and the airplane's wings went vertical and dropped below the tree line.

PERSONNEL INFORMATION

A review of Federal Aviation Administration (FAA) airman records revealed that the 60-year-old pilot held a commercial pilot certificate with ratings for airplane single-engine land and instrument airplane. The pilot held a third-class medical certificate issued on November 11, 2008. It had the limitation that the pilot must have available glasses for near vision.

An examination of the pilot's logbook revealed that the pilot had received his private pilot certificate in 1982. On December 29, 2008, he received his commercial pilot certificate, followed by his instrument rating, which was received on January 23, 2009. The pilot reported a total flight time of 307.7 hours as of December 24, 2009. He logged an additional 1.5 hours on January 1, 2010. The pilot had not logged any flight time in the 90 days preceding the accident. According to the operator, the pilot had only rented a couple of times from his company.

AIRCRAFT INFORMATION

The airplane was a 1983 Cessna 152, N94838, serial number 15285799. On October 27, 2006, a field overhauled engine, a Lycoming Engines O-235-L2C, serial number L-11028-15, was installed on the accident airplane. The last annual inspection occurred on January 29, 2010, at an aircraft total time of 12,787.3 hours. On June 8, 2010, a 100-hour inspection was performed at a total time of 12,885 hours. The engine total time prior to engine overhaul was 3,328.3, and 0.0 hours since major overhaul. The last 100-hour inspection took place on June 8, 2010, at an engine total time of 4,208.1 hours, and 879.8 hours since major overhaul.

Examination of the maintenance and flight department records revealed no unresolved maintenance discrepancies against the airplane prior to departure.

METEOROLOGICAL CONDITIONS

The closest official weather observation station to the accident site was Santa Monica, 0.5 miles southwest of the approach end of runway 21. An aviation routine weather report (METAR) issued at 1751, stated wind from 240 degrees at 8 knots; visibility 9 statute miles; temperature 19 degrees Celsius; dew point 13 degrees Celsius; altimeter setting was 29.79 inches of Mercury.

COMMUNICATIONS

According to the FAA, the pilot had called Prescott automated flight service station at 1414 to obtain a preflight weather briefing. The pilot indicated that he would be up for an hour or two, and would be doing pattern work. The briefer reported an AIRMET (airmen meteorological information) along the coastline for IFR (instrument flight rules) conditions for ceilings less than 1,000 feet with visibilities less than 3 miles. Santa Monica was currently reporting 1,100 scattered cloud conditions, with variable wind at 6 knots, and unrestricted visibility. From the coastline north of Los Angeles International Airport (LAX) weather was reported as 1,000 scattered until 1900. The pilot stated that he was going to go flying at 1700 (5:00 pm) so he should miss the weather. The briefer stated that the pilot should call back prior to flying to get an updated briefing. At 1423, the pilot indicated that he needed to commit to the airplane rental, but wanted to make sure the weather was VFR (visual flight rules). The briefer repeated the weather as 1,100 feet scattered and SMO was reporting VFR. The pilot stated that he would take a chance on it.

The pilot was in contact with Santa Monica airport air traffic control. A tower controller reported that he had cleared the accident airplane for a touch-and-go on runway 21. He saw the airplane land hard by the first set of PAPI (precision approach path indicator) lights. The airplane continued down the runway at a slow speed, and then abeam the intersection, it appeared that the airplane had picked up speed. He watched the airplane take off, and on the climb out the pilot stated that he needed to return for landing right away. The controller cleared the accident airplane to land on runway 21. He watched as the airplane turned left, and

just past the SMO VOR (very high frequency radio range), the airplane appeared to spin once, and then fly straight into the ground.

A ground controller noted the airplane about 200 feet above the ground and 1/4 mile from the departure end of runway 21; the airplane went into a nose dive and then straight down.

AIRPORT INFORMATION

The Airport/ Facility Directory, Southwest U. S., indicated that Santa Monica Airport runway 21 was 4,973 feet long and 150 feet wide. The runway surface was asphalt-grooved.

WRECKAGE AND IMPACT INFORMATION

The National Transportation Safety Board (NTSB) investigator-in-charge (IIC), the FAA accident coordinator, and a representative from Lycoming Engines responded to the accident site.

The airplane came to rest in a nose down attitude in a copse of trees. The wings remained attached to the fuselage and showed leading to trailing edge crush. The horizontal stabilizer separated from the tail section, but remained connected via the flight control cables. The engine separated from the firewall, and came to rest near the left door. The propeller separated from the propeller hub assembly and came to rest just forward of the main wreckage; one propeller blade had chordwise scratching and leading edge gouging, the other propeller blade was relatively undamaged. The magneto switch was selected to the BOTH position.

MEDICAL AND PATHOLOGICAL INFORMATION

The County of Los Angeles – Department of the Coroner completed an autopsy on July 2, 2010. The cause of death was listed as multiple traumatic injuries.

The FAA Forensic Toxicology Research Team CAMI, 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.

TEST AND RESEARCH

An airframe and engine examination took place on August 2, 2010, at Aircraft Recovery Service, Pearblossom, California. Present were the NTSB IIC, the FAA accident coordinator, and representatives from Cessna Aircraft Company and Lycoming Engines. The visual examination revealed no pre-impact mechanical anomalies that would have precluded normal operation. A more detailed examination of the airframe confirmed flight control continuity from the cockpit area to both wings, and tail section via cables and associated hardware. The flaps were found in a 5-degree down position, and the elevator trim tab was established at 5 degrees tab down. The fuel selector was in the ON position. Both wings exhibited uniform crush damage from the leading to the trailing edge. The rudder was free to move. Both the left and right horizontal stabilizers exhibited leading to trailing edge crush damage; the left horizontal stabilizer was bent upward, and the right horizontal stabilizer outboard tip section was bent upward. The horizontal stabilizer was frozen in place and could not be moved. The main landing gear remained attached to the fuselage. The firewall had been pushed back into the cockpit.

History of Flight

Initial climb	Loss of control in flight (Defining event) Aerodynamic stall/spin
Uncontrolled descent	Collision with terr/obj (non-CFIT)

Pilot Information

Certificate:	Commercial	Age:	60, Male
Airplane Rating(s):	Single-engine Land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	Seatbelt, Shoulder harness
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	Yes
Medical Certification:	Class 3 With Waivers/Limitations	Last Medical Exam:	11/12/2008
Occupational Pilot:	No	Last Flight Review or Equivalent:	01/22/2009
Flight Time:	309 hours (Total, all aircraft), 0 hours (Last 90 days, all aircraft), 0 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Manufacturer:	CESSNA	Registration:	N94838
Model/Series:	152	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Normal; Utility	Serial Number:	15285799
Landing Gear Type:	Tricycle	Seats:	2
Date/Type of Last Inspection:	06/08/2010, 100 Hour	Certified Max Gross Wt.:	
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:	12885 Hours	Engine Manufacturer:	Lycoming Engines
ELT:	Installed, not activated	Engine Model/Series:	O-235-L2C
Registered Owner:	Kim Davidson Aviation Inc	Rated Power:	115 hp
Operator:	Justice Aviation	Air Carrier Operating Certificate:	None

Meteorological Information and Flight Plan

Observation Facility, Elevation:	SMO, 177 ft msl	Observation Time:	1751 PDT
Distance from Accident Site:	1 Nautical Miles	Condition of Light:	Day
Direction from Accident Site:	215°	Conditions at Accident Site:	Visual Conditions
Lowest Cloud Condition:	Clear	Temperature/Dew Point:	19° C / 13° C
Lowest Ceiling:	None	Visibility	9 Miles
Wind Speed/Gusts, Direction:	8 knots, 240°	Visibility (RVR):	
Altimeter Setting:	29.79 inches Hg	Visibility (RVV):	
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Santa Monica, CA (SMO)	Type of Flight Plan Filed:	Unknown
Destination:	Santa Monica, CA (SMO)	Type of Clearance:	VFR
Departure Time:	1800 PDT	Type of Airspace:	Class B

Airport Information

Airport:	Santa Monica Muni Airport (SMO)	Runway Surface Type:	Asphalt
Airport Elevation:	177 ft	Runway Surface Condition:	Dry
Runway Used:	21	IFR Approach:	None
Runway Length/Width:	4973 ft / 150 ft	VFR Approach/Landing:	Touch and Go; Traffic Pattern

Wreckage and Impact Information

Crew Injuries:	1 Fatal	Aircraft Damage:	Substantial
Passenger Injuries:	N/A	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Fatal		

Administrative Information

Investigator In Charge (IIC):	Tealeye Cornejo	Adopted Date:	05/26/2011
Additional Participating Persons:	Dale Choppin; Federal Aviation Administration; Los Angeles, CA Henry Soderlund; Cessna Aircraft Company; Wichita, KS Mark Platt; Lycoming Engines; Williamsport, PA		
Publish Date:	05/26/2011		
Investigation Docket:	http://dms.nts.gov/pubdms/search/dockList.cfm?mKey=76523		

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