



National Transportation Safety Board Aviation Accident Final Report

Location:	Berrien Springs, MI	Accident Number:	CHI05CA060
Date & Time:	02/01/2005, 0850 EST	Registration:	N9515B
Aircraft:	Cessna 172RG	Aircraft Damage:	Substantial
Defining Event:		Injuries:	2 None

Flight Conducted Under: Part 91: General Aviation - Instructional

Analysis

The airplane, piloted by a private pilot receiving instruction from a certified flight instructor (CFI), sustained substantial damage during a hard landing following a simulated loss of engine power during takeoff and subsequent emergency landing after takeoff. The pilot's accident report stated, "On climb out, the air speed was held between 63 and 65 knots (Vy). To simulate an engine failure, the CFI reduced the throttle. Immediately upon noticing the loss of power, I lowered the nose of the aircraft to avoid loss of airspeed and to avoid a wing stall. While maintaining control of the aircraft, altitude was lost. An attempt was made to flare the aircraft before contact with the runway. Subsequently, a hard landing was made, and the aircraft came to a complete stop on the runway." The CFI's accident report stated, "We then made a short field takeoff and during the takeoff I simulated an engine failure. We immediately pushed the nose over but with insufficient airspeed we developed a high sink rate and made a hard landing." The CFI stated that there were no mechanical malfunctions associated with the airplane during the flight. The wind was calm.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot not maintaining airspeed leading to an excessive sink rate during a simulated emergency landing after takeoff. An additional cause was the certified flight instructor's inadequate supervision.

Findings

Occurrence #1: HARD LANDING

Phase of Operation: LANDING

Findings

1. EMERGENCY PROCEDURE - SIMULATED - PILOT IN COMMAND
2. (C) AIRSPEED - NOT MAINTAINED - PILOT IN COMMAND
3. (C) DESCENT - EXCESSIVE - PILOT IN COMMAND
4. (C) SUPERVISION - INADEQUATE - PILOT IN COMMAND(CFI)

Factual Information

Flight Instructor Information

Certificate:	Commercial	Age:	49, Male
Airplane Rating(s):	Multi-engine Land; Single-engine Land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	Seatbelt, Shoulder harness
Instrument Rating(s):	Airplane	Second Pilot Present:	
Instructor Rating(s):	Airplane Multi-engine; Airplane Single-engine; Instrument Airplane	Toxicology Performed:	No
Medical Certification:	Class 2 Valid Medical--w/ waivers/lim.	Last Medical Exam:	08/05/2004
Occupational Pilot:		Last Flight Review or Equivalent:	05/28/2004
Flight Time:	4260 hours (Total, all aircraft), 255 hours (Total, this make and model), 4074 hours (Pilot In Command, all aircraft), 64 hours (Last 90 days, all aircraft), 14 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

Pilot Information

Certificate:	Age:
Airplane Rating(s):	Seat Occupied:
Other Aircraft Rating(s):	Restraint Used:
Instrument Rating(s):	Second Pilot Present:
Instructor Rating(s):	Toxicology Performed:
Medical Certification:	Last Medical Exam:
Occupational Pilot:	Last Flight Review or Equivalent:
Flight Time:	

Aircraft and Owner/Operator Information

Aircraft Manufacturer:	Cessna	Registration:	N9515B
Model/Series:	172RG	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Normal	Serial Number:	172RG0846
Landing Gear Type:	Retractable - Tricycle	Seats:	4
Date/Type of Last Inspection:	11/17/2004, 100 Hour	Certified Max Gross Wt.:	2650 lbs
Time Since Last Inspection:	63.4 Hours	Engines:	1 Reciprocating
Airframe Total Time:	6026.7 Hours	Engine Manufacturer:	Lycoming
ELT:	Installed, not activated	Engine Model/Series:	O-360-F1A6
Registered Owner:	Andrews University	Rated Power:	180 hp
Operator:	Andrews University	Air Carrier Operating Certificate:	None

Meteorological Information and Flight Plan

Observation Facility, Elevation:	BEH, 643 ft msl	Observation Time:	0853 EST
Distance from Accident Site:	11 Nautical Miles	Condition of Light:	Day
Direction from Accident Site:	346°	Conditions at Accident Site:	Visual Conditions
Lowest Cloud Condition:		Temperature/Dew Point:	-5° C / -7° C
Lowest Ceiling:	Broken / 6500 ft agl	Visibility	4 Miles
Wind Speed/Gusts, Direction:	Calm	Visibility (RVR):	
Altimeter Setting:	30.46 inches Hg	Visibility (RVV):	
Precipitation and Obscuration:			
Departure Point:	Berrien Springs, MI (C20)	Type of Flight Plan Filed:	None
Destination:	(C20)	Type of Clearance:	None
Departure Time:	EST	Type of Airspace:	Class G

Airport Information

Airport:		Runway Surface Type:	
Airport Elevation:		Runway Surface Condition:	
Runway Used:		IFR Approach:	
Runway Length/Width:		VFR Approach/Landing:	

Wreckage and Impact Information

Crew Injuries:	2 None	Aircraft Damage:	Substantial
Passenger Injuries:	N/A	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	2 None		

Administrative Information

Investigator In Charge (IIC): Edward F Malinowski **Adopted Date:** 03/30/2005

Additional Participating Persons: Larry Powell; South Bend, IN FSDO

Publish Date:

Note: This accident report documents the factual circumstances of this accident as described to the NTSB.

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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