



Aviation Investigation Final Report

Location:	Lawrence, Kansas	Accident Number:	GAA17CA351
Date & Time:	June 10, 2017, 11:00 Local	Registration:	N99HV
Aircraft:	Cessna 172	Aircraft Damage:	Substantial
Defining Event:	Hard landing	Injuries:	2 None
Flight Conducted Under:	Part 91: General aviation - Instructional		

Analysis

The flight instructor reported that, during a simulated engine failure in the traffic pattern, with gusting wind conditions, the student pilot entered a forward slip on final approach. He added that 10 to 20 ft above the runway surface, "the wind gust we were riding suddenly halted wherein the aircraft began a rapid downward descent." The flight instructor reported that he "went for the flight controls to take command," but the student pilot at that same time applied back pressure on the flight controls. Subsequently, the airplane touched down hard, bounced, and the flight instructor performed a go-around. The flight instructor completed the subsequent traffic pattern and landing without further incident.

The engine mounts and firewall sustained substantial damage.

The flight instructor reported that there were no preaccident mechanical malfunctions or failures with the airplane that would have precluded normal operation.

An automated weather observation station at the airport reported that, about the time of the accident, the wind was from 170° at 16 knots, gusting to 24 knots. The flight instructor reported that the landing was on runway 15.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

The student pilot's incorrect control application during landing after a simulated engine failure, which resulted in a hard, bounced landing, and the flight instructor's delayed action to perform a go-around in gusting wind conditions.

Findings

Personnel issues	Incorrect action performance - Student/instructed pilot
Personnel issues	Aircraft control - Student/instructed pilot
Aircraft	Descent/approach/glide path - Not attained/maintained
Personnel issues	Delayed action - Instructor/check pilot
Personnel issues	Use of equip/system - Student/instructed pilot
Environmental issues	Gusts - Effect on operation

Factual Information

History of Flight

Landing	Simulated/training event
Landing	Other weather encounter
Landing	Loss of control in flight
Landing	Attempted remediation/recovery
Landing	Hard landing (Defining event)

Flight instructor Information

Certificate:	Commercial; Flight instructor	Age:	22, Male
Airplane Rating(s):	Single-engine land; Single-engine sea	Seat Occupied:	Right
Other Aircraft Rating(s):	None	Restraint Used:	3-point
Instrument Rating(s):	Airplane	Second Pilot Present:	Yes
Instructor Rating(s):	Airplane single-engine; Instrument airplane	Toxicology Performed:	No
Medical Certification:	Class 3 With waivers/limitations	Last FAA Medical Exam:	May 20, 2014
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	March 11, 2017
Flight Time:	(Estimated) 605 hours (Total, all aircraft), 312 hours (Total, this make and model), 450 hours (Pilot In Command, all aircraft), 168 hours (Last 90 days, all aircraft), 65 hours (Last 30 days, all aircraft), 4 hours (Last 24 hours, all aircraft)		

Student pilot Information

Certificate:	Student	Age:	53, Male
Airplane Rating(s):	None	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	3-point
Instrument Rating(s):	None	Second Pilot Present:	Yes
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 3 With waivers/limitations	Last FAA Medical Exam:	August 18, 2015
Occupational Pilot:	No	Last Flight Review or Equivalent:	
Flight Time:	(Estimated) 71 hours (Total, all aircraft), 71 hours (Total, this make and model), 6 hours (Pilot In Command, all aircraft), 16 hours (Last 90 days, all aircraft), 6 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	Registration:	N99HV
Model/Series:	172 S	Aircraft Category:	Airplane
Year of Manufacture:	2005	Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	172S10090
Landing Gear Type:	Tricycle	Seats:	4
Date/Type of Last Inspection:	February 3, 2017 AAIP	Certified Max Gross Wt.:	2550 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:	5813.9 Hrs at time of accident	Engine Manufacturer:	LYCOMING
ELT:	C91A installed, not activated	Engine Model/Series:	IO-360-L2A
Registered Owner:		Rated Power:	180 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:	KLWC, 833 ft msl	Distance from Accident Site:	0 Nautical Miles
Observation Time:	15:52 Local	Direction from Accident Site:	0°
Lowest Cloud Condition:	Clear	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	16 knots / 24 knots	Turbulence Type Forecast/Actual:	/ None
Wind Direction:	170°	Turbulence Severity Forecast/Actual:	/ N/A
Altimeter Setting:	29.79 inches Hg	Temperature/Dew Point:	27°C / 19°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	LAWRENCE, KS (LWC)	Type of Flight Plan Filed:	None
Destination:	LAWRENCE, KS (LWC)	Type of Clearance:	None
Departure Time:	09:50 Local	Type of Airspace:	Class E

Airport Information

Airport:	LAWRENCE MUNI LWC	Runway Surface Type:	Asphalt
Airport Elevation:	833 ft msl	Runway Surface Condition:	Dry
Runway Used:	15	IFR Approach:	None
Runway Length/Width:	5700 ft / 100 ft	VFR Approach/Landing:	Full stop;Go around;Simulated forced landing;Traffic pattern

Wreckage and Impact Information

Crew Injuries:	2 None	Aircraft Damage:	Substantial
Passenger Injuries:		Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	2 None	Latitude, Longitude:	39.011112,-95.216392(est)

Administrative Information

Investigator In Charge (IIC):	Gerhardt, Adam
Additional Participating Persons:	Richard Stevens; FAA/ FSDO; Wichita, KS
Original Publish Date:	September 22, 2017
Note:	This accident report documents the factual circumstances of this accident as described to the NTSB.
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=95406

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