



National Transportation Safety Board Aviation Accident Final Report

Location:	Venice, FL	Accident Number:	ERA15LA145
Date & Time:	03/03/2015, 1100 EST	Registration:	N498TC
Aircraft:	CESSNA 152	Aircraft Damage:	Substantial
Defining Event:	Loss of engine power (total)	Injuries:	1 Minor, 1 None
Flight Conducted Under:	Part 91: General Aviation - Instructional		

Analysis

The flight instructor reported that he and the student pilot departed on a local training flight. After completing maneuvers at 2,000 ft, the flight instructor initiated a simulated engine failure and proceeded to demonstrate the forced landing procedure to the student. He selected a field as the forced landing location and applied carburetor heat. After turning onto final approach for the field at an altitude of about 500 ft, the flight instructor discontinued the simulation by turning off the carburetor heat and applying engine power to initiate a climb. The flight instructor stated that the engine then "sputtered and produced no power," and he subsequently conducted a forced landing to the field.

During postaccident examination of the airplane, no fuel was observed in either of the two wing fuel tanks; however, the fuel quantity at the time of the accident could not be determined because a fuel line was damaged during impact, and fuel might have leaked out postaccident. An auxiliary fuel supply was plumbed into the fuel system, and the engine started immediately, accelerated smoothly, and ran continuously with no anomalies observed.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: A total loss of engine power for reasons that could not be determined because postaccident testing of the engine revealed no anomalies.

Findings

Not determined	Not determined - Unknown/Not determined (Cause)
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Factual Information

On March 3, 2015, about 1100 eastern standard time, a Cessna 152, N498TC, was substantially damaged during a forced landing following a total loss of engine power near Venice, Florida. The flight instructor (CFI) was not injured, and the student pilot sustained minor injuries. Visual meteorological conditions prevailed, and no flight plan was filed for the local instructional flight, which departed Venice Municipal Airport (VNC), Venice. The flight was conducted under the provisions of Title 14 Code of Federal Regulations Part 91.

The CFI stated that he and the student departed VNC for a local training flight with 18 gallons of fuel onboard. After completing maneuvers at 2,000 feet, the CFI initiated a simulated engine failure and proceeded to demonstrate the forced landing procedure to the student. He selected a field as a forced landing location, and carburetor heat was applied. After turning onto final approach for the selected field at an altitude of about 500 feet, the CFI discontinued the simulation by turning off the carburetor heat and applying engine power to initiate a climb. The engine "sputtered and produced no power," and after ensuring the proper positions of the fuel selector valve, mixture control, and engine primer, the CFI conducted a forced landing to the field. Upon touchdown, the left wing contacted the ground and the airplane "cartwheeled." The airplane came to rest upright, and the CFI and student subsequently egressed. The CFI stated that the accident airplane had performed without anomalies during another instructional flight just prior to the accident flight, during which he also conducted a simulated engine failure.

The airplane was manufactured in 1979 and was equipped with one Lycoming O-235 series, 110-hp reciprocating engine, which had accumulated 3,484 hours since overhaul. The airplane's most recent annual inspection was completed on February 13, 2015, and as of the accident flight, had accumulated about 29 hours since that date.

The CFI held a commercial pilot certificate with ratings for airplane single and multiengine land, and instrument airplane; as well as a flight instructor certificate with ratings for airplane single and multiengine land and instrument airplane. His most recent Federal Aviation Administration (FAA) first-class medical certificate was issued in September 2013. He reported 6,244 total hours of flight experience, of which 352 hours were in the accident airplane make and model.

Postaccident examination of the airplane by an FAA inspector revealed substantial damage to both wings and the forward fuselage. There was no fuel observed in either of the airplane's two wing fuel tanks; however, fuel quantity at the time of the accident could not be determined as a fuel line was damaged during impact. The airplane was subsequently removed from the site, the starter was replaced, and an auxiliary fuel supply was plumbed into the airplane's fuel system. The engine started immediately, accelerated smoothly, and ran continuously with no anomalies observed. The carburetor heat control could not be manipulated due to impact damage.

In a written statement, the flight instructor indicated that he had flown the accident airplane on a training flight prior to the accident flight on the day of the accident. Fueling records provided by the operator indicated that the airplane was last serviced at 1122 EST the day prior to the accident with 10.36 gallons of 100LL aviation fuel. The operator did not, however, provide flight records for the airplane; therefore, total flight time since the airplane's most recent fueling could not be determined.

The 1115 weather observation at VNC, located about 5 miles west of the accident site, included wind from 140 degrees at 12 knots with gusts to 17 knots, 10 statute miles visibility, clear skies, temperature 26 degrees C, dew point 18 degrees C, and an altimeter setting of 30.21 inches of mercury. Review of a carburetor icing probability chart indicated the potential for serious icing at glide power given the atmospheric conditions present about the time of the accident.

History of Flight

Maneuvering	Simulated/training event Loss of engine power (total) (Defining event)
Emergency descent	Off-field or emergency landing

Flight Instructor Information

Certificate:	Flight Instructor; Commercial	Age:	48
Airplane Rating(s):	Multi-engine Land; Single-engine Land	Seat Occupied:	Right
Other Aircraft Rating(s):	None	Restraint Used:	
Instrument Rating(s):	Airplane	Second Pilot Present:	Yes
Instructor Rating(s):	Airplane Multi-engine; Airplane Single-engine; Instrument Airplane	Toxicology Performed:	No
Medical Certification:	Class 1 With Waivers/Limitations	Last Medical Exam:	09/09/2013
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	02/10/2015
Flight Time:	6244 hours (Total, all aircraft), 352 hours (Total, this make and model), 5720 hours (Pilot In Command, all aircraft), 115 hours (Last 90 days, all aircraft), 50 hours (Last 30 days, all aircraft), 2 hours (Last 24 hours, all aircraft)		

Student Pilot Information

Certificate:	Student	Age:	
Airplane Rating(s):	None	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	
Instrument Rating(s):	None	Second Pilot Present:	Yes
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 3 Without Waivers/Limitations	Last Medical Exam:	09/26/2014
Occupational Pilot:	No	Last Flight Review or Equivalent:	
Flight Time:	10 hours (Total, all aircraft), 7 hours (Total, this make and model), 10 hours (Last 90 days, all aircraft), 10 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Manufacturer:	CESSNA	Registration:	N498TC
Model/Series:	152	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Normal	Serial Number:	15283390
Landing Gear Type:	Tricycle	Seats:	2
Date/Type of Last Inspection:	02/13/2015, 100 Hour	Certified Max Gross Wt.:	1676 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:		Engine Manufacturer:	LYCOMING
ELT:	C91 installed, activated, did not aid in locating accident	Engine Model/Series:	O-235 SERIES
Registered Owner:	MIDIN CORP	Rated Power:	118 hp
Operator:	Florida Flight Training Center	Air Carrier Operating Certificate:	None

Meteorological Information and Flight Plan

Observation Facility, Elevation:	KVNC, 19 ft msl	Observation Time:	1115 EST
Distance from Accident Site:	5 Nautical Miles	Condition of Light:	Day
Direction from Accident Site:	279°	Conditions at Accident Site:	Visual Conditions
Lowest Cloud Condition:	Clear	Temperature/Dew Point:	26° C / 18° C
Lowest Ceiling:	None	Visibility	10 Miles
Wind Speed/Gusts, Direction:	12 knots/ 17 knots, 140°	Visibility (RVR):	
Altimeter Setting:	30.21 inches Hg	Visibility (RVV):	
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Venice, FL (VNC)	Type of Flight Plan Filed:	None
Destination:	Venice, FL (VNC)	Type of Clearance:	None
Departure Time:	1030 EST	Type of Airspace:	Class G

Wreckage and Impact Information

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

Administrative Information

Investigator In Charge (IIC):	Allison N Diaz	Adopted Date:	12/14/2015
Additional Participating Persons:	Angel A Figueroa-Rodriguez; FAA/FSDO; Tampa, FL		
Publish Date:	12/14/2015		
Note:	The NTSB did not travel to the scene of this accident.		
Investigation Docket:	http://dms.nts.gov/pubdms/search/dockList.cfm?mKey=90825		

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