

Aviation Investigation Final Report

Location: Greenwood, Mississippi Accident Number: ERA13LA257

Date & Time: May 23, 2013, 10:34 Local Registration: N9996N

Aircraft: Cessna 180J Aircraft Damage: Substantial

Defining Event: Loss of engine power (partial) **Injuries:** 2 None

Flight Conducted Under: Part 91: General aviation - Instructional

Analysis

The student pilot stated that, after performing a simulated engine failure about 300 feet above ground level, he advanced the throttle to full power, but the engine would not develop full power. The flight instructor took control of the airplane and maneuvered it for a forced landing to a nearby field. During the landing roll, the airplane nosed over and came to rest inverted. No evidence of preaccident mechanical malfunctions or abnormalities were found with the engine that would have precluded normal operation. A review of meteorological data revealed that the airplane was being operated in conditions conducive to serious carburetor icing at glide power. The investigation could not determine if carburetor heat was used during the simulated engine failure; however, it is likely that if carburetor heat was not used, serious carburetor icing could have accumulated, which resulted in a loss of engine power.

Probable Cause and Findings

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

A partial loss of engine power due to carburetor icing.

Findings

Aircraft (general) - Malfunction

Environmental issues Conducive to carburetor icing - Contributed to outcome

Environmental issues (general) - Contributed to outcome

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Factual Information

History of Flight

Maneuvering Simulated/training event

Maneuvering Loss of engine power (partial) (Defining event)

Emergency descent Off-field or emergency landing

Landing-landing roll Nose over/nose down

On May 23, 2013, about 1034 central daylight time, a Cessna 180J, N9996N, nosed over while making a forced landing in a field following a partial loss of engine power near Greenwood, Mississippi. The certificated flight instructor (CFI) and student pilot were not injured and the airplane sustained substantial damage. The airplane was registered to and operated by a private individual under the provisions of Title 14 Code of Federal Regulations Part 91 as an instructional flight. Visual meteorological conditions prevailed and no flight plan had been filed. The flight originated from Greenwood – Leflore Airport (GWO), Greenwood, Mississippi, about 1000.

According to the CFI, about 1,000 feet above ground level (agl), he simulated an engine failure by retarding the throttle to the idle position. Subsequently, the student pilot had performed the engine failure checklist, which included: carburetor heat to be "ON" and the mixture to be "RICH." About 300 feet agl, the CFI commanded a go-around and the student pilot advanced the throttle to full power; however, the engine backfired and would not develop full power. The CFI verified that the throttle was at the full power setting and the carburetor heat was off. He further stated that about one minute had elapsed from the beginning of the simulated engine failure until the airplane came to rest inverted.

According to a Federal Aviation Administration (FAA) inspector who responded to the accident location, the airplane came to rest inverted in a field with 4-foot-high wheat. The inspector also noted that visual inspection of the engine revealed no evidence of preimpact failure or malfunction. He further stated that local first responders reported to him that fuel was observed flowing out of the fuel vent located in each wing of the airplane. The airplane sustained substantial damage to the right wing forward spar, wing strut, and the vertical stabilizer.

The 1053 recorded weather observation at GWO, located about 5 miles from the accident location, included wind from 260 degrees at 3 knots, visibility 10 miles, clear skies, temperature 26 degrees C, dew point 19 degrees C; barometric altimeter 30.05 inches of mercury.

A review of the FAA Special Airworthiness Information Bulletin, CE-09-35, dated June 30, 2009, revealed that the temperature and dew point at the nearest weather reporting station were conducive to "Serious Carburetor icing at glide power."

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Flight instructor Information

Certificate:	Airline transport; Commercial; Flight instructor	Age:	49
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Right
Other Aircraft Rating(s):	Helicopter	Restraint Used:	3-point
Instrument Rating(s):	Airplane; Helicopter	Second Pilot Present:	Yes
Instructor Rating(s):	Airplane multi-engine; Airplane single-engine; Helicopter; Instrument airplane; Instrument helicopter	Toxicology Performed:	No
Medical Certification:	Class 2 With waivers/limitations	Last FAA Medical Exam:	February 13, 2013
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	November 1, 2012
Flight Time:	15800 hours (Total, all aircraft), 65 hours (Total, this make and model), 15350 hours (Pilot In Command, all aircraft), 50 hours (Last 90 days, all aircraft), 25 hours (Last 30 days, all aircraft)		

Student pilot Information

Certificate:	Student	Age:	33
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 Without waivers/limitations	Last FAA Medical Exam:	May 14, 2013
Occupational Pilot:	No	Last Flight Review or Equivalent:	
Flight Time:	1 hours (Total, all aircraft), 1 hours (Total, this make and model)		

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Aircraft and Owner/Operator Information

Cessna	Registration:	N9996N
180J	Aircraft Category:	Airplane
	Amateur Built:	
Normal	Serial Number:	18052651
Tailwheel	Seats:	6
May 4, 2012 Annual	Certified Max Gross Wt.:	2800 lbs
	Engines:	1 Reciprocating
1224 Hrs as of last inspection	Engine Manufacturer:	CONT MOTOR
C91A installed	Engine Model/Series:	0-470-RCS
On file	Rated Power:	230 Horsepower
On file	Operating Certificate(s) Held:	None
	180J Normal Tailwheel May 4, 2012 Annual 1224 Hrs as of last inspection C91A installed On file	Aircraft Category: Amateur Built: Normal Serial Number: Tailwheel Seats: May 4, 2012 Annual Certified Max Gross Wt.: Engines: 1224 Hrs as of last inspection Engine Manufacturer: C91A installed Engine Model/Series: On file Operating Certificate(s)

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	KGWO,133 ft msl	Distance from Accident Site:	5 Nautical Miles
Observation Time:	10:53 Local	Direction from Accident Site:	70°
Lowest Cloud Condition:	Clear	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	3 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	260°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30.04 inches Hg	Temperature/Dew Point:	26°C / 19°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Greenwood, MS (GWO)	Type of Flight Plan Filed:	None
Destination:	Greenwood, MS (GWO)	Type of Clearance:	VFR
Departure Time:	10:00 Local	Type of Airspace:	

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Airport Information

Airport:	GREENWOOD-LEFLORE GWO	Runway Surface Type:	
Airport Elevation:	155 ft msl	Runway Surface Condition:	Vegetation
Runway Used:		IFR Approach:	None
Runway Length/Width:		VFR Approach/Landing:	Forced landing;Simulated forced landing

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:	33.466667,-90.183334(est)

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Administrative Information

Investigator In Charge (IIC):	Etcher, Shawn
Additional Participating Persons:	Micheal E Jones; FAA/FSDO; Jackson, MS
Original Publish Date:	March 24, 2014
Last Revision Date:	
Investigation Class:	<u>Class</u>
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=87021

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The NTSB does not assign fault or blame for an accident or incident; rather, as specified by NTSB regulation, "accident/incident investigations are fact-finding proceedings with no formal issues and no adverse parties ... and are not conducted for the purpose of determining the rights or liabilities of any person" (Title 49 Code of Federal Regulations section 831.4). Assignment of fault or legal liability is not relevant to the NTSB's statutory mission to improve transportation safety by investigating accidents and incidents and issuing safety recommendations. In addition, statutory language prohibits the admission into evidence or use of any part of an NTSB report related to an accident in a civil action for damages resulting from a matter mentioned in the report (Title 49 United States Code section 1154(b)). A factual report that may be admissible under 49 United States Code section 1154(b) is available here.

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