



National Transportation Safety Board Aviation Accident Data Summary

Location:	Shipshewana, IN	Accident Number:	CEN15LA106
Date & Time:	01/19/2015, 1700 EST	Registration:	N979DC
Aircraft:	DIAMOND AIRCRAFT IND INC DA 20 C1	Injuries:	1 None
Flight Conducted Under:	Part 91: General Aviation - Instructional		

Analysis

The student pilot reported that he was practicing solo ground reference maneuvers about 1,600 ft above ground level when the engine began operating erratically. He further stated that the airplane might have entered an aerodynamic stall. He advanced the throttle to full forward, but the engine did not respond and subsequently experienced a total loss of power. He attempted to restart the engine by completing the emergency procedures that he remembered. The engine “turned over” but did not restart. He then prepared for a forced landing to a nearby field. During the base-to-final turn, he lost control of the airplane, and it descended to the ground. The airplane impacted the field and continued into a propane tank and then a house where it came to rest.

A postaccident examination of the airplane revealed that most of the induction air filter was obstructed by ice; no other anomalies were noted. The engine was test run with and without the ice in the air filter, and the engine produced full power under both conditions. The alternate air lever, which selects a second induction air intake in case the primary air intake (air filter) becomes restricted, was found in the “off” position. The aircraft flight manual states that, in the event of an in-flight engine failure, the alternate air control should be opened (or “on”). A Federal Aviation Administration advisory circular warns pilots of induction system icing known as “impact ice,” which can build up on components like the air filter when moisture-laden air is near freezing. Based on the near-freezing outside air temperature and clouds in the area in which the flight was operating and the lack of any apparent engine malfunctions, it is likely that the primary air induction system became obstructed with impact ice during the flight.

When asked about the airplane’s alternate air lever, the student pilot indicated that he was unfamiliar with the lever and did not know its intended use. If the student pilot had opened the alternate air control during the initial power loss, it is likely that engine power would have been restored.

Flight Events

Maneuvering-low-alt flying - Loss of engine power (total)
Maneuvering-low-alt flying - Other weather encounter

Probable Cause

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The total loss of engine power due to impact ice obstructing the primary air induction system, which resulted from the student pilot’s failure to operate the alternate air control. Contributing to the accident was the student pilot’s lack of knowledge about using the alternate air control during an engine power loss.

Findings

Aircraft-Aircraft power plant-Power plant-Air intake-Incorrect use/operation - C

Personnel issues-Experience/knowledge-Knowledge-Knowledge of equipment-Student/instructed pilot - F

Personnel issues-Experience/knowledge-Training-Training with equipment-Student/instructed pilot

Personnel issues-Action/decision-Action-Lack of action-Student/instructed pilot - C

Personnel issues-Task performance-Use of equip/info-Use of equip/system-Student/instructed pilot - C

Environmental issues-Conditions/weather/phenomena-(general)-(general)-Effect on equipment - C

Student Pilot Information

Certificate:	Student	Age:	18
Airplane Rating(s):	None	Instrument Rating(s):	None
Other Aircraft Rating(s):	None	Instructor Rating(s):	None
Flight Time:	12 hours (Total, all aircraft), 12 hours (Total, this make and model), 2 hours (Pilot In Command, all aircraft), 12 hours (Last 90 days, all aircraft), 12 hours (Last 30 days, all aircraft), 2 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	DIAMOND AIRCRAFT IND INC	Registration:	N979DC
Model/Series:	DA 20 C1	Engines:	1 Reciprocating
Operator:	NEW HORIZONS AVIATION INC	Engine Manufacturer:	Continental Motors Inc
Operating Certificate(s) Held:	Pilot School (141)	Engine Model/Series:	IO-240
Flight Conducted Under:	Part 91: General Aviation - Instructional		

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	KGSH, 827 ft msl	Weather Information Source:	Weather Observation Facility
Lowest Ceiling:	Unknown	Wind Speed/Gusts, Direction:	3 knots / , 200°
Temperature:	2°C	Visibility	10 Miles
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	GOSHEN, IN (GSH)	Destination:	GOSHEN, IN (GSH)

Airport Information

Airport:	GOSHEN MUNI (GSH)	Runway Surface Type:	Grass/turf
Runway Used:	N/A	Runway Surface Condition:	Vegetation
Runway Length/Width:			

Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Substantial
Passenger Injuries:	N/A	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Latitude, Longitude:	41.705833, -85.613056 (est)		

Administrative Information

Investigator In Charge (IIC):	Joshua D Lindberg	Adopted Date:	03/17/2015
Note:	The NTSB did not travel to the scene of this accident.		
Investigation Docket:	http://dms.nts.gov/pubdms/search/dockList.cfm?mKey=90617		

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