Analysis

The flight instructor in the multiengine airplane reported that, during a simulated single-engine instrument approach to runway 2, the right engine was configured for the simulated failure. The instructor added that the goal was to perform a missed approach on one engine and note the airplane’s performance. The pilot under instruction descended to the decision height and executed the missed approach procedure, but the airplane would not climb. The flight instructor told the pilot to go to full power on both engines. According to the flight instructor, "mixtures, props and throttles were all full forward and the fuel flow levers were both at the ON position," and he took control of the airplane.

The flight instructor reported that there were trees and buildings to the north and that he made a left turn about 400 ft above ground level with the intent to land on runway 14. He extended the landing gear but realized that he would not reach the runway. He executed a forced landing to the southwest on taxiway Sierra, the airplane crossed over runway 32/14, and although heavy braking was applied, the airplane exited the taxiway and impacted a drainage culvert. The airplane sustained substantial damage to the aft fuselage stringers and longerons.

The airport elevation was 488 ft, the density altitude was 2,120 ft, the temperature was 81°, the dew point was 66° F, and the wind was calm, and the flight instructor stated that carburetor heat was not used during the approach on either engine.

The relative humidity was about 60 percent, and the weather conditions were conducive to serious icing probability when operating in a gliding flight profile.

Flight Events

Approach-IFR missed approach - Powerplant sys/comp malf/fail
Approach-IFR missed approach - Attempted remediation/recovery
Emergency descent - Landing area undershoot
Landing-landing roll - Loss of control on ground

Probable Cause

The National Transportation Safety Board determines the probable cause(s) of this accident to be:
The flight instructor's failure to use carburetor heat during the approach while operating in atmospheric conditions that were conducive to carburetor icing, which resulted in a loss of engine power due to carburetor icing.

**Findings**

Aircraft-Aircraft systems-Ice/rain protection system-Intake anti-ice, deice-Not used/operated - C
Personnel issues-Action/decision-Info processing/decision-Identification/recognition-Instructor/check pilot - C
Personnel issues-Action/decision-Action-Lack of action-Instructor/check pilot - C
Environmental issues-Conditions/weather/phenomena-Temp/humidity/pressure-Conducive to carburetor icing-Effect on operation - C
Environmental issues-Physical environment-Object/animal/substance-Airport structure-Contributed to outcome

### Pilot Information

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<tr>
<th>Certificate:</th>
<th>Flight Instructor; Commercial</th>
<th>Age:</th>
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<tr>
<td>Airplane Rating(s):</td>
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<td>Instrument Rating(s):</td>
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<td>Other Aircraft Rating(s):</td>
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<td>Instructor Rating(s):</td>
<td>Airplane Multi-engine; Airplane Single-engine; Instrument Airplane</td>
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<td>Flight Time:</td>
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<td>Instrument Rating(s):</td>
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<td>Other Aircraft Rating(s):</td>
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<td>Instructor Rating(s):</td>
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<td>Flight Time:</td>
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Aircraft and Owner/Operator Information

Aircraft Make: PIPER  
Registration: N190ND

Model/Series: PA 44 180  
Engines: 2 Reciprocating

Operator: PLANE NONSENSE INC  
Engine Manufacturer: LYCOMING

Operating Certificate(s) Held: None  
Engine Model/Series: O-360-A1H6

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: KEEN, 481 ft msl  
Weather Information Source: Weather Observation Facility

Lowest Ceiling: 27°C  
Wind Speed/Gusts, Direction: Calm / ,

Temperature: 27°C  
Visibility: 10 Miles

Precipitation and Obscuration: No Obscuration; No Precipitation

Departure Point: BEDFORD, MA (BED)  
Destination: Keene, NH (EEN)

Airport Information

Airport: DILLANT-HOPKINS (EEN)  
Runway Surface Type: Asphalt

Runway Used: 02  
Runway Surface Condition: Dry

Runway Length/Width: 6201 ft / 100 ft

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

Latitude, Longitude: 42.898333, -72.270833 (est)

Administrative Information

Investigator In Charge (IIC): Michael A Hicks  
Adopted Date: 04/04/2017

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

Investigation Docket: http://dms.ntsb.gov/pubdms/search/dockList.cfm?mKey=93614

The National Transportation Safety Board (NTSB), established in 1967, is an independent federal agency mandated by Congress through the Independent Safety Board Act of 1974 to investigate transportation accidents, determine the probable causes of the accidents, issue safety recommendations, study transportation safety issues, and evaluate the safety effectiveness of government agencies involved in transportation. The NTSB makes public its actions and decisions through accident reports, safety studies, special investigation reports, safety recommendations, and statistical reviews.

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