Aviation Investigation Final Report

Location:	Newburyport, Massachusetts	**Accident Number:**	NYC02LA132
Date & Time:	July 6, 2002, 13:39 Local	**Registration:**	N823DA
Aircraft:	Beech C23	**Aircraft Damage:**	Substantial
Defining Event:		**Injuries:**	2 None
Flight Conducted Under:	Part 91: General aviation		

Analysis

The pilot-rated passenger performed the takeoff and downwind departure. As he reduced the engine power to cruise, the engine lost power. The commercial pilot immediately took control of the airplane, but was unable to restore engine power. He set up for a forced landing on a road; however, a vehicle on the road prevented the landing. The commercial pilot then side-stepped the airplane and performed a forced landing in the adjacent marsh. During ground roll, the nose wheel collapsed and the airplane nosed over. Fuel system continuity was confirmed with no evidence of contamination observed. The engine was test run, utilizing the airplane fuel system. However, the engine power was kept low due to damaged engine mounts and vibration. The carburetor was examined and found to run rich at all power settings. The richness varied from 17 percent at idle to 2 1/2 percent at takeoff power.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: A power loss for undetermined reason(s), which resulted in a subsequent forced landing to unsuitable terrain. A factor was the unsuitable terrain.

Findings

Occurrence #1: LOSS OF ENGINE POWER
Phase of Operation: CRUISE

Findings

1. (C) REASON FOR OCCURRENCE UNDETERMINED

Occurrence #2: FORCED LANDING
Phase of Operation: DESCENT - EMERGENCY

Occurrence #3: ON GROUND/WATER ENCOUNTER WITH TERRAIN/WATER
Phase of Operation: LANDING - ROLL

Findings
2. (C) TERRAIN CONDITION - NONE SUITABLE

Factual Information

On July 6, 2002, at 1339 eastern daylight time, a Beech C23, N823DA, was substantially damaged during a forced landing, after departure from Plum Island Airport (2B2), Newburyport, Massachusetts. The certificated commercial pilot and the private pilot were not injured. Visual meteorological conditions prevailed for the flight destined for Beverly Municipal Airport (BVY), Beverly, Massachusetts. No flight plan had been filed for the business flight that was conducted under 14 CFR Part 91.

According to the commercial pilot, the purpose of the flight was to take a company employee from Beverly, Massachusetts (BVY), to Plum Island, and return the airplane to Beverly. A private pilot occupied the left seat and was the pilot flying, while the commercial pilot occupied the right seat. The flight to Plum Island was completed without incident. The passenger disembarked without the engine being shut down, and then the private pilot taxied the airplane to runway 28 for departure. After takeoff, he performed a left downwind departure, and flew the airplane east toward the island's shoreline.

As the airplane neared the shore line, at an altitude of about 1,000 feet, the private pilot reduced engine power to a cruise setting, and noticed that the engine power continued to further reduce to near idle. The commercial pilot immediately took control of the airplane and performed a 90 degree turn to the left, to position the airplane on a left base back to runway 28. The commercial pilot observed that he was too far from the airport to glide to it, and then made a 180 degree turn to the right to follow the shore line to the south. The commercial pilot reported that the beaches were crowded with people. While descending, the commercial pilot changed the fuel selector to the other wing tank, checked carburetor heat, and the magneto switch. His attempts to keep the engine running were not successful. At one time, the engine momentarily surged, but then lost power again, and he was still unable to restore power.

The commercial pilot also reported that he initially thought about landing on a straight stretch of road that ran north and south. As he continued toward that stretch of road, he observed one vehicle, which did not clear the road. At an altitude of about 50 feet AGL, the commercial pilot side-stepped to the right, to land in the marsh. The nosewheel struck an elevated portion of the terrain and collapsed. The nose then dug in, and the airplane came to rest inverted.

According to a Federal Aviation Administration (FAA) inspector, the engine had been pushed rearward, and the firewall was wrinkled. Some of the engine mounts had been fractured. Thumb compression was attained in all cylinders. Fuel flow continuity from the fuel tanks to the carburetor was confirmed. The carburetor fuel screen was absent of debris, and the fuel appeared clean. The spark plugs were not fouled. Electrical continuity was confirmed to the magneto switch. The baffles in the exhaust muffler were in place.

The engine was test run satisfactorily on the airframe, utilizing the airframe fuel system. The engine was not run above idle due to broken engine mounts and vibration.

The carburetor was examined under the supervision of an inspector from the FAA. According to the report, the carburetor flowed 17 percent richer than normal at idle. At the mid-range power settings, the richness decreased to about 5 percent, and at higher power settings, the richness was about 2 1/2 percent.

Pilot Information

Certificate:	Commercial; Flight instructor	**Age:**	54,Male
Airplane Rating(s):	Single-engine land; Single-engine sea; Multi-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 2 Valid Medical--w/ waivers/lim	**Last FAA Medical Exam:**	October 30, 2001
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	September 22, 2001
Flight Time:	3586 hours (Total, all aircraft), 1250 hours (Total, this make and model), 3089 hours (Pilot In Command, all aircraft), 118 hours (Last 90 days, all aircraft), 55 hours (Last 30 days, all aircraft)		

Co-pilot Information

Certificate:	Private	**Age:**	43,Male
Airplane Rating(s):	Single-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	
Instrument Rating(s):	Airplane	**Second Pilot Present:**	Yes
Instructor Rating(s):	None	**Toxicology Performed:**	No
Medical Certification:	Class 1 Valid Medical--w/ waivers/lim	**Last FAA Medical Exam:**	November 28, 2000
Occupational Pilot:	UNK	**Last Flight Review or Equivalent:**	August 14, 2001
Flight Time:	420 hours (Total, all aircraft), 108 hours (Total, this make and model), 100 hours (Last 90 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Beech	**Registration:**	N823DA
Model/Series:	C23	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	M-2089
Landing Gear Type:	Tricycle	**Seats:**	4
Date/Type of Last Inspection:	June 24, 2002 Annual	**Certified Max Gross Wt.:**	2450 lbs
Time Since Last Inspection:	91.6 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	6887.6 Hrs at time of accident	**Engine Manufacturer:**	Lycoming
ELT:	Installed, activated, did not aid in locating accident	**Engine Model/Series:**	O-360-A4K
Registered Owner:	Albert Graff	**Rated Power:**	180 Horsepower
Operator:	General Aviation Services	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	LWM,149 ft msl	**Distance from Accident Site:**	14 Nautical Miles
Observation Time:	13:54 Local	**Direction from Accident Site:**	273°
Lowest Cloud Condition:	Clear	**Visibility**	9 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	8 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	318°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	29.92 inches Hg	**Temperature/Dew Point:**	26°C / 13°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Newburyport, MA (2B2)	**Type of Flight Plan Filed:**	None
Destination:	Beverly, MA (BVY)	**Type of Clearance:**	None
Departure Time:	13:37 Local	**Type of Airspace:**	Class E

Airport Information

Airport:	Newburyport 2B2	**Runway Surface Type:**	
Airport Elevation:	11 ft msl	**Runway Surface Condition:**	Unknown
Runway Used:	28	**IFR Approach:**	None
Runway Length/Width:		**VFR Approach/Landing:**	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:**	42.775001,-70.808334

Administrative Information

Investigator In Charge (IIC):	Hancock, Robert
Additional Participating Persons:	John A Donohue; Federal Aviation Administration; Boston, MA
Original Publish Date:	April 17, 2003
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=55148