



National Transportation Safety Board Aviation Accident Final Report

Location:	Hudson, NH	Accident Number:	NYC02LA002
Date & Time:	10/02/2001, 1310 EDT	Registration:	N8393H
Aircraft:	Beech C-45H	Aircraft Damage:	Substantial
Defining Event:		Injuries:	3 Minor

Flight Conducted Under: Part 91: General Aviation - Instructional

Analysis

The Twin Beech (C-45H) departed on a local training flight with the pilot/owner in the left seat and a flight instructor in the right seat to conduct a flight review. Shortly after departure, the left engine started to shake, then it seized. While the flight instructor reached for the emergency checklist, the pilot/owner inadvertently feathered the good engine. The flight instructor took control of the airplane and performed a forced landing. The feathering buttons were only accessible to the pilot/owner, who had never unfeathered an engine in flight, was not familiar with the procedures necessary to restart the engine, and was subsequently unable to assist in unfeathering the engine for a restart. He had 55 hours in make and model, with none in the preceding 90 days.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot/owner's failure to properly identify the inoperative engine prior to feathering the wrong propeller, and his lack of familiarity with the required corrective procedures. A factor was the initial engine failure.

Findings

Occurrence #1: LOSS OF ENGINE POWER(TOTAL) - MECH FAILURE/MALF
Phase of Operation: CLIMB - TO CRUISE

Findings

1. (F) 1 ENGINE - FAILURE,TOTAL
2. (C) WRONG PROPELLER FEATHERED - NOT IDENTIFIED - PILOT IN COMMAND
3. (C) LACK OF FAMILIARITY WITH AIRCRAFT - PILOT IN COMMAND

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

Occurrence #3: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: EMERGENCY DESCENT/LANDING

Factual Information

On October 2, 2001, about 1310 eastern daylight time, a Beech C-45H, N8393H, was substantially damaged during a forced landing in Hudson, New Hampshire. The certificated commercial pilot, flight instructor, and passenger received minor injuries. Visual meteorological conditions prevailed for the instructional flight. No flight plan had been filed for the flight conducted under 14 CFR Part 91.

The purpose of the flight was to conduct a flight review for the airplane owner, who occupied the left seat. A flight instructor occupied the right seat. According to a written statement from the pilot:

"...the flight was normal up until approximately 2,000 feet on climb out. At that time, the left engine started to shake. Shortly after, the left engine failed, [and] the left propeller came to a complete stop."

"[The flight instructor]...added power to the right engine, and vocalized that he would get the engine failure checklist. At this time, I was manipulating the controls. While he reached down to obtain the checklist located on the floor between us, I depressed the [right] engine feather button, [and] the right engine subsequently feathered. In the confusion, without confirmation from [the flight instructor]...I depressed the wrong feather button and feathered the wrong engine."

"[The flight instructor]...vocalized and took command of the aircraft. [The flight instructor]...instructed me to start the right engine. Two attempts at restart were unsuccessful. It was necessary for me to conduct the restart procedure due to the fact that the starter controls are located on the left side, not accessible to him."

"We were losing altitude rapidly; there were not many suitable landing areas. [The flight instructor]...located a golf driving range approximately 300 yards long. He successfully made an emergency landing into this area."

According to a written statement from the flight instructor:

"We departed Nashua airport and headed southeast, leveling off at pattern altitude approx 3 or 4 miles away, then started a slow climb, at approx 2,000 feet MSL, the left engine started to shake and shortly after the engine failed. I added power to the right engine and told...[the pilot] I would get the engine failure checklist. [The pilot]...was still flying the airplane. I reached down to get the checklist on the floor between us. After opening it to the proper section, I realized the airspeed was still decreasing. Then I found out,[the pilot]...had feathered the wrong engine, and didn't tell me. I told [the pilot]...I was taking command of the aircraft. He was badly shaking when I asked him to restart the right engine. We were losing altitude rapidly and [I] had to focus on flying the airplane. I found a golf driving range and made a successful emergency landing."

In a follow up telephone interview, the pilot was asked why the engine was not restarted. He said the feathering button needed to be held down, but he was not familiar with the engine restart procedures and said he had never conducted an inflight restart. In addition, he said that after he had feathered the wrong engine, he "just froze."

In a follow-up telephone interview, the flight instructor reported that during the landing, the right engine and firewall separated from the wing. When asked why the good engine was not

unfeathered, and restarted, he replied that the feathering buttons for both propellers were located on the top of the left side glare shield in front of the pilot. Unfeathering the propeller required the appropriate feather button to be held in a depressed position until the propeller came out of feather and started rotating, and then, the feather button had to be pulled out to stop the propeller from going back into feather again. He reported that after the left engine lost power, and the right engine was feathered, he had to devote his full attention to the flying the airplane and picking a landing area.

According to the pilots involved, the airplane owner's flight experience was 3,877 hours, with 872 hours in multi-engine airplanes, and 55 hours in make and model. The pilot had flown 10 hours in the preceding 90 days, with none in make and model. The flight experience of the flight instructor was in excess of 20,000 hours, with 16,000 hours in multi-engine airplanes, and 500 hour in make and model. He had flown 230 hours in the preceding 90 days, with 30 hours in make and model.

Pilot Information

Certificate:	Commercial	Age:	67, Male
Airplane Rating(s):	Multi-engine Land; Single-engine Land; Single-engine Sea	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	Seatbelt
Instrument Rating(s):	Airplane	Second Pilot Present:	Yes
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 2 Valid Medical--w/ waivers/lim.	Last FAA Medical Exam:	07/17/2001
Occupational Pilot:		Last Flight Review or Equivalent:	08/01/1999
Flight Time:	3877 hours (Total, all aircraft), 55 hours (Total, this make and model), 3000 hours (Pilot In Command, all aircraft), 10 hours (Last 90 days, all aircraft)		

Flight Instructor Information

Certificate:	Airline Transport; Commercial	Age:	53, Male
Airplane Rating(s):	Multi-engine Land; Single-engine Land; Single-engine Sea	Seat Occupied:	Right
Other Aircraft Rating(s):	None	Restraint Used:	Seatbelt
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 Valid Medical--w/ waivers/lim.	Last FAA Medical Exam:	09/21/2001
Occupational Pilot:		Last Flight Review or Equivalent:	08/02/2001
Flight Time:	20000 hours (Total, all aircraft), 500 hours (Total, this make and model), 17000 hours (Pilot In Command, all aircraft), 230 hours (Last 90 days, all aircraft), 67 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Beech	Registration:	N8393H
Model/Series:	C-45H	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Normal	Serial Number:	AF 854
Landing Gear Type:	Retractable - Tailwheel	Seats:	7
Date/Type of Last Inspection:	09/06/2001, Annual	Certified Max Gross Wt.:	9360 lbs
Time Since Last Inspection:		Engines:	2 Reciprocating
Airframe Total Time:	5420 Hours as of last inspection	Engine Manufacturer:	P&W
ELT:	Installed, activated, did not aid in locating accident	Engine Model/Series:	R-985
Registered Owner:	Frank Hammerbacher	Rated Power:	450 hp
Operator:	Frank Hammerbacher	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	ASH, 200 ft msl	Distance from Accident Site:	6 Nautical Miles
Observation Time:	1245 EDT	Direction from Accident Site:	330°
Lowest Cloud Condition:	Scattered / 5500 ft agl	Visibility	25 Miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	7 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	350°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29.86 inches Hg	Temperature/Dew Point:	23° C / 11° C
Precipitation and Obscuration:			
Departure Point:	Nashua, NH (ASH)	Type of Flight Plan Filed:	None
Destination:	Hudson, NH (ASH)	Type of Clearance:	None
Departure Time:	1305 EDT	Type of Airspace:	Class G

Airport Information

Airport:	Boire Field (ASH)	Runway Surface Type:	
Airport Elevation:	200 ft	Runway Surface Condition:	
Runway Used:		IFR Approach:	None
Runway Length/Width:		VFR Approach/Landing:	Forced Landing

Wreckage and Impact Information

Crew Injuries:	2 Minor	Aircraft Damage:	Substantial
Passenger Injuries:	1 Minor	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	3 Minor	Latitude, Longitude:	42.722500, -71.426944

Administrative Information

Investigator In Charge (IIC):	Robert L Hancock	Report Date:	11/28/2001
Additional Participating Persons:	John Keefe; Federal Aviation Administration; Portland, ME		
Publish Date:			
Investigation Docket:	NTSB accident and incident dockets serve as permanent archival information for the NTSB's investigations. Dockets released prior to June 1, 2009 are publicly available from the NTSB's Record Management Division at pubinquiry@ntsb.gov , or at 800-877-6799. Dockets released after this date are available at http://dms.nts.gov/pubdms/ .		

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