National Transportation Safety Board
Aviation Accident Final Report

Location:	Bradford, PA	**Accident Number:**	NYC03LA075
Date & Time:	03/31/2003, 1312 EST	**Registration:**	N215CQ
Aircraft:	Beech B-60	**Aircraft Damage:**	Destroyed
Defining Event:		**Injuries:**	1 Serious
Flight Conducted Under:	Part 91: General Aviation - Business		

Analysis

The pilot first reported that the engine oil temperature had dropped below what he normally observed while en route. When he tired to exercise the left propeller control, and then later tried to feather the left engine, he was unable to change the engine rpm. He then heard a pop from the right engine, and advised air traffic control (ATC), he needed to perform a landing at Bradford. He also reported a double power loss. While being radar vectored for the ILS runway 32 approach, he told ATC he was getting some power back. He was radar vectored inside of the outer marker, and broke out mid-field and high. At the departure end of the runway, he executed a right turn and during the turn, the airplane descended into trees, and a post crash fire destroyed it. A witness reported he heard backfiring when the airplane over flew the runway. When the airplane was examined, the landing gear was found down, and the wing flaps were extended 15 degrees. Neither propeller was feathered. Both engines were test run and performed satisfactorily. The left engine fuel servo was used on the right engine due to impact damage on the right engine fuel servo. The right fuel servo was examined and found to run rich. However, no problems were found that would explain a power loss, prevent the engine from running, or explain the backfiring heard by a witness. Both propellers were examined and found to be satisfactory, with an indication of more power on the left propeller than on the right propeller. The weather observation taken at 1253 included a ceiling of 1,100 feet broken, visibility 1 mile, light snow and mist. The weather observation taken at 1310 included a ceiling of 900 feet broken, visibility 3/4 mile, and light snow and mist. According to the pilot's handbook, the airplane could maintain altitude or climb on one engine, but it required the propeller to be feathered, and the landing gear and wing flaps retracted.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's improper decision to maneuver for a landing in a configuration that exceeded the capability of the airplane to maintain altitude, after he lost power on one engine for undetermined reason(s).

Findings

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

Findings
1. (C) 1 ENGINE
2. (C) REASON FOR OCCURRENCE UNDETERMINED

Occurrence #2: LOSS OF CONTROL - IN FLIGHT
Phase of Operation: MANEUVERING - TURN TO LANDING AREA (EMERGENCY)

Findings
3. (C) AIRCRAFT PERFORMANCE,ENGINE OUT CAPABILITY - EXCEEDED
4. (C) IN-FLIGHT PLANNING/DECISION - IMPROPER - PILOT IN COMMAND

Occurrence #3: IN FLIGHT COLLISION WITH OBJECT
Phase of Operation: DESCENT - UNCONTROLLED

Findings
5. OBJECT - TREE(S)

Factual Information

On March 31, 2003, at 1312 eastern standard time, a Beech B-60, N215CQ, was destroyed during a forced landing at Bradford Regional Airport (BFD), Bradford, Pennsylvania. The certificated private pilot received serious injuries. Instrument meteorological conditions prevailed for the business flight that departed from Long Island MacArthur Airport, Islip, New York, and was destined for Gary, Indiana. An instrument flight rules (IFR) flight plan had been filed for the flight that was conducted under 14 CFR Part 91.

The pilot reported that his planned final destination was Cheyenne, Wyoming, with an en route fuel stop at Gary, Indiana. He had departed Islip at 1109, with the fuel filled to capacity, 231 gallons.

The final cruise altitude was 16,000 feet. The pilot reported that the airplane was passing in and out of the tops of the clouds, with the airplane more out of the weather than in it. He observed a drop in the engine oil temperature on both engines to about 50 C or maybe cooler. This was lower than he had normally observed, but the engine oil temperatures were still in the green. He also observed a drop in the outside air temperature from -20 C to -40 C, and the left engine was starting to vibrate.

At 1225, control of the flight was passed to Crosby Radar Section of the Cleveland Air Route Traffic Center (ARTCC).

At 1247, the pilot requested to divert to Erie, Pennsylvania, and added that he may have a problem. The pilot was cleared direct to Erie.

At 1251, the pilot said he had to go to Erie, and he had a problem. He then request the Erie weather and it was given to him.

At 1252, the pilot reported that he was going to shut down his left engine, and he subsequently declared and emergency. About four minutes later, the controller observed the airplane had taken a southwestly heading and advised the pilot. The pilot reported that he was trying to get things under control. At 1258, in response to a question from the controller, the pilot reported that he had his hands full.

At 1302, the pilot requested a closer airport with good weather, and was told that Bradford was located 5 miles away. The pilot requested and received the Bradford weather, and in addition was given the runway information for Bradford.

At 1304:10, the pilot transmitted, " ...we need Bradford now." The pilot was given a descent clearance to 4,000 feet, and requested the approach frequencies which were given to him.

At 1304:29, the pilot reported that he had a double engine failure. He continued to receive radar vectors for the approach to Bradford.

At 1307;41, the pilot requested to be radar vectored inside the outer marker, and controller replied that he was doing that.

At 1308:30, the pilot reported that he just got some engine power back.

The approach controller continued to respond to all of the pilots requests for weather, airport elevation, runway length, and other information.

The last transmission received from the airplane was at 1310:57, when the pilot stated:

"I need the field elevation now."

The airplane was next observed by two witnesses on the airport. They saw the airplane fly over and heard a backfiring sound. The airplane turned to the right, after which it disappeared from view. They then saw black smoke rising from the area where the airplane disappeared from view. They traveled to the area, and saw a man walking toward them.

When interviewed after the accident, the pilot reported multiple occurrences with the airplane. He added that the decision to divert to Erie, Pennsylvania was made after he observed a decrease in engine oil temperature. He increased power, but the engine oil temperature did not change; however, he added that he may not have left the increased power on long enough to make a difference in the engine oil temperature. He then moved the left propeller control and tried to increase engine rpm. However, although the propeller control moved, there was no change of rpm with the engine. The turbocharger turbine inlet temperature (TIT) had decreased down to about 1,000 F. He added that normally he flies with the TIT about 1,580 F.

When he looked at the fuel flow totalizer for both engines, he saw it was reading 20.9 gph on the right engine, and zero fuel flow on the left engine. He then tried to feather the left engine; however, it would not feather. The right engine appeared to be operating normally. The pilot then heard what he perceived was a "pop" from the right engine. Shortly thereafter reported that he had experienced a double power loss.

The pilot did not recall the altitude of the airplane as it descended out of the clouds, but said the airplane was midfield and low. He could see the departure end of the runway ahead, and as he passed over the departure end of the runway, he initiated a right turn of 180 degrees. During the turn, the airplane continued to descend and he leveled the wings and let the airplane settle into an area of small trees. A post crash fire developed, and consumed the fuselage.

The airplane and engines were examined by representatives of Raytheon Aircraft, and Textron Lycoming, under the supervision of an airworthiness inspector from the Federal Aviation Administration (FAA). The airplane impacted in a wooded area on the airport property. The accident site was located about 900 feet north of the approach end of runway 14, and abeam of the 1,000 foot marker on the runway. Trees at the accident site were broken, consistent with a 30 degree right bank as the airplane entered the trees. The debris trail was on a heading of 120 degrees magnetic for about 200 feet. Both engines had separated from the airframe during the impact sequence. The fuselage was destroyed by fire. The landing gear was found extended, and the wing flaps were extended to 15 degrees.

Both engines were run at Textron Lycoming under the supervision of an FAA airworthiness inspector. The left engine ran with no problems noted. The right engine fuel servo had sustained impact damage and could not be used in an engine run. The fuel servo from the left engine was removed and placed on the right engine. The right engine ran with no problems noted.

The right engine fuel servo was examined at Precision Aeromotive under the supervision of an FAA airworthiness inspector. The unit was found to run richer than the maximum specified. In all tests, the richness exceeded the maximum allowed by 5 to 10 percent at higher air flows. The FAA inspector added that nothing was found with the fuel servo that would explain a power loss, prevent the engine from running, or explain the backfiring heard by a witness.

Both propellers were examined at Hartzell Propellers, under the supervision of an FAA

airworthiness inspector. The report stated:

"...Both propellers were rotating at the time of impact. The amount of power could not be determined, but the # 1 (right engine) propeller appeared to have less power than the # 2 (Left engine) propeller."

"There were no discrepancies noted that would preclude normal operation. All damage was consistent with impact damage...."

According to data from the FAA, runway 14/32 was 6,499 feet long, 150 feet wide, and had a grooved asphalt surface. Runway 14 was also served by a 4 box VASI with a 3 degree glide path. High intensity runway edge lights were installed.

The 1253 weather observation at Bradford, the last observation prior to the accident, recorded in part: winds from 260 degrees at 6 knots, visibility 1 statute mile, light snow and mist, ceiling 1,100 feet broken, 1,500 feet overcast, temperature -4 C, dewpoint -6 C, and altimeter 29.89.

The 1310 weather observation at Bradford, about 1 minute after the accident, recorded in part: winds from 240 degrees at 10 knots with gusts to 14 knots, visibility 3/4 statute mile, light snow and mist, ceiling 900 broken, 1,500 feet overcast, temperature -4 C, dewpoint -6 C, and altimeter 29.89.

According to performance charts in the Pilot's Operating Manual, the airplane could maintain altitude, or climb with a single engine climb. The configuration to maintain altitude required the propeller to be feathered on the inoperative engine, the landing gear retracted, and the wing flaps retracted. No performance data was available for single engine with the landing gear and wing flaps extended.

Pilot Information

Certificate:	Private	**Age:**	59, Male
Airplane Rating(s):	Multi-engine Land; Single-engine Land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	Seatbelt
Instrument Rating(s):	Airplane	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	No
Medical Certification:	Class 3 Valid Medical--w/ waivers/lim.	**Last FAA Medical Exam:**	02/27/2002
Occupational Pilot:		**Last Flight Review or Equivalent:**	02/18/2002
Flight Time:	4580 hours (Total, all aircraft), 1318 hours (Total, this make and model), 4000 hours (Pilot In Command, all aircraft), 53 hours (Last 90 days, all aircraft), 20 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Beech	**Registration:**	N215CQ
Model/Series:	B-60	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	No
Airworthiness Certificate:	Normal	**Serial Number:**	P-458
Landing Gear Type:	Retractable - Tricycle	**Seats:**	6
Date/Type of Last Inspection:	11/25/2002, Annual	**Certified Max Gross Wt.:**	7000 lbs
Time Since Last Inspection:	94 Hours	**Engines:**	2 Reciprocating
Airframe Total Time:	5217 Hours at time of accident	**Engine Manufacturer:**	Textron Lycoming
ELT:	Installed, not activated	**Engine Model/Series:**	Tio-541-E1C4
Registered Owner:	Speciality MIcrowave Corp	**Rated Power:**	380 hp
Operator:	On file	**Operating Certificate(s) Held:**	None
Operator Does Business As:	Specialty Microwave Corporation	**Operator Designator Code:**	

Meteorological Information and Flight Plan

Conditions at Accident Site:	Instrument Conditions	**Condition of Light:**	Day
Observation Facility, Elevation:	BFD, 2143 ft msl	**Distance from Accident Site:**	0 Nautical Miles
Observation Time:	1253 EST	**Direction from Accident Site:**	0°
Lowest Cloud Condition:		**Visibility**	1 Miles
Lowest Ceiling:	Broken / 1100 ft agl	**Visibility (RVR):**	
Wind Speed/Gusts:	6 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	260°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	29.89 inches Hg	**Temperature/Dew Point:**	-4°C / -6°C
Precipitation and Obscuration:			
Departure Point:	Islip, NY (ISP)	**Type of Flight Plan Filed:**	IFR
Destination:	Gary, IN (GVY)	**Type of Clearance:**	IFR
Departure Time:	1109 EST	**Type of Airspace:**	Class D

Airport Information

Airport:	Bradford Regional Airport (BFD)	**Runway Surface Type:**	Asphalt
Airport Elevation:	2143 ft	**Runway Surface Condition:**	Snow--dry
Runway Used:	14	**IFR Approach:**	ILS
Runway Length/Width:	6499 ft / 150 ft	**VFR Approach/Landing:**	None

Wreckage and Impact Information

Crew Injuries:	1 Serious	**Aircraft Damage:**	Destroyed
Passenger Injuries:	N/A	**Aircraft Fire:**	On-Ground
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 Serious	**Latitude, Longitude:**	44.811111, -78.643056

Administrative Information

Investigator In Charge (IIC):	Robert L Hancock	**Report Date:**	09/01/2004
Additional Participating Persons:	Dennis Ferencz; Federal Aviation Administration; West Mifflin, PA Aaron Spotts; Textron Lycoming; Williamsport, PA Brain Cassidy; Raytheon; Wichita, KS		
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 pubinq@ntsb.gov, or at 800-877-6799. Dockets released after this date are available at http://dms.ntsb.gov/pubdms/.		