Aviation Investigation Final Report

Location:	Butler, Missouri	**Accident Number:**	CEN19FA161
Date & Time:	June 10, 2019, 10:20 Local	**Registration:**	N622MM
Aircraft:	Cessna 425	**Aircraft Damage:**	Destroyed
Defining Event:	Powerplant sys/comp malf/fail	**Injuries:**	1 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

During a cross-country flight, the pilot initiated a descent to his intended destination. During the descent, the pilot informed air traffic control (ATC) that he could not retard power on the right engine. Later in the descent, the pilot decided to shut down the right engine. The pilot communicated his desire to land at the nearest airport to ATC, and ATC provided the pilot with the clearance to divert. Radar data showed the airplane in a steady descent toward the airport.

When the airplane was at an altitude of about 2,500 ft mean sea level, the pilot contacted ATC and stated that he was trying to get the airplane under control; radar data showed the airplane in a 360° right turn at the time. The pilot contacted ATC again and stated that he was going to land on a highway. No further transmissions were received from the pilot. After the right turn, the airplane continued in a descent through 1,300 ft mean sea level, at which point radar contact was lost. A witness saw the airplane and stated that the airplane was low and slow but appeared to be in stable flight with both propellers spinning. She did not see any smoke coming from the airplane. She saw the airplane flying northeast to southwest when it suddenly descended nose first into the ground. The airplane impacted a gravel road adjacent to a 100-ft-tall grain silo about 1 mile from the highway and about 3.3 miles from the airport.

Examination of the airframe flight controls, throttle quadrant rigging, and engines revealed no mechanical anomalies. The left and right engine fuel control units (FCU) were disassembled and showed no pre-existing mechanical anomalies that could have prevented normal operation. Some contaminants were found in the Py air sections of both FCUs. According to the manufacturer, if an FCU's Py bleed was partially restricted with debris, modulation of power could be altered. However, each FCU's Py bleed had no restrictions or blockages. Examination of the fuel pumps, propeller governors, and overspeed governors of both engines revealed no mechanical anomalies that could have prevented normal operation.

According to the Cessna 425 single-engine performance chart, the airplane could have maintained level flight with one engine inoperative if the landing gear and flaps were retracted and the inoperative engine's propeller was feathered. At the time of impact, the airplane's landing gear was extended, the flaps were at 10° down, and the right engine propeller condition lever was about 0.25 inch from minimum and not in the feather detent position.

The reason for the pilot's reported problem with retarding the right engine's throttle could not be determined. It is unknown why the pilot made a right turn into the inoperative engine toward the end of the descent, and the reason for the pilot's loss of control could not be determined.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

The pilot's loss of airplane control during a descent to a diversion airport with only the left engine operating. Contributing to the accident was a malfunction of the right engine throttle, the cause of which could not be determined.

Findings

Aircraft	Power lever - Malfunction
Aircraft	(general) - Unknown/Not determined
Personnel issues	(general) - Pilot
Not determined	(general) - Unknown/Not determined

Factual Information

History of Flight

Enroute-descent	Powerplant sys/comp malf/fail (Defining event)
Emergency descent	Controlled flight into terr/obj (CFIT)

On June 10, 2019, about 1020 central daylight time, a Cessna 425 airplane, N622MM, was destroyed when it was involved in an accident near Butler, Missouri. The private pilot sustained fatal injuries. The cross-country flight was conducted under the provisions of Title 14 *Code of Federal Regulations* Part 91.

The flight originated about 0554 eastern daylight time from Vero Beach Municipal Airport, Vero Beach, Florida, and its planned destination was New Century Airport (IXD), Olathe, Kansas. After an uneventful 970-mile flight, the pilot initiated a descent to IXD and was in direct communication with air traffic control (ATC).

About 1004 central daylight time (all times from this point forward are central daylight time), the pilot told the radar controller that he had a "major problem" and could not retard the right engine throttle. Shortly afterward, the controller instructed the pilot to change frequencies to another radar controller. At 1008:32, the controller told the pilot that he was observing the airplane climbing and descending and acknowledged that the pilot was having engine trouble. The pilot advised the controller that he was going to have to shut down the right engine while it was at full power. The controller then asked the pilot if the airplane could make IXD. The pilot responded that he could make the airport but that he might have to shut down the engine on final approach.

At 1011:54, the pilot reported that he was operating the airplane with one engine. At 1013:40, the pilot requested the nearest airport, and the controller advised the pilot that the Butler Airport (BUM) was the nearest airport and was about 8 miles away. At 1015:32, the pilot stated that he would have to land on runway 18 at BUM; 36 seconds later, the pilot reported that he had the airport in sight.

At 1017:45, the pilot advised the controller that he was trying to get the airplane under control. The controller then confirmed that the pilot had BUM in sight and cleared the airplane for a visual approach.

Between 1018:53 and 1019:08, the pilot advised the controller that the airplane was "gonna go down" on the highway. No further transmissions were received from the pilot. Radar data showed that the airplane made a 360° right turn when the airplane was at an altitude of about 2,500 ft mean sea level, as shown in figures 1 and 2. The last radar data point was recorded when the airplane was at 1,300 ft mean sea level.

Figure 1. Flight Path

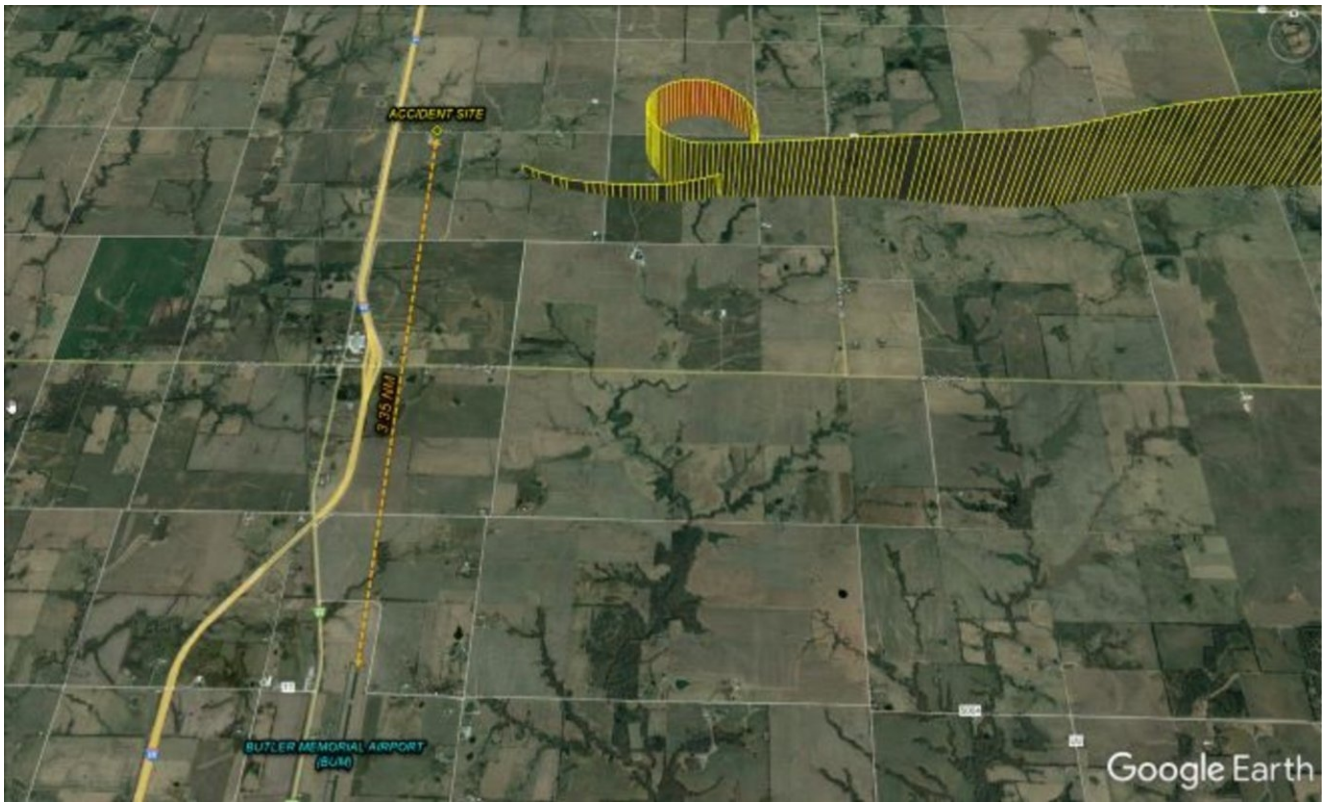

Figure 2. Flight Path Showing 360-degree Turn and Proximity to BUM.

A witness who was traveling in her car on the highway reported that she saw the airplane. She stated that the airplane was low and slow but appeared to be in stable flight with both propellers spinning. She did not see any smoke coming from the airplane. She saw the airplane flying northeast to southwest before it suddenly descended nose first into the ground. The airplane impacted a gravel road adjacent to a 100-ft-tall grain silo, about 1-mile from the highway and about 3.3 miles from BUM.

Pilot Information

Certificate:	Private	**Age:**	80,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	4-point
Instrument Rating(s):	Airplane	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	Yes
Medical Certification:	Class 3 With waivers/limitations	**Last FAA Medical Exam:**	March 14, 2019
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	April 15, 2019
Flight Time:	3457 hours (Total, all aircraft), 1891 hours (Total, this make and model), 24 hours (Last 90 days, all aircraft), 5 hours (Last 24 hours, all aircraft)		

According to pilot records, he had completed recurrent ground and flight training in the Cessna 425 on April 4, 2019.

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	**Registration:**	N622MM
Model/Series:	425 No Series	**Aircraft Category:**	Airplane
Year of Manufacture:	1984	**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	425-0187
Landing Gear Type:	Retractable - Tricycle	**Seats:**	7
Date/Type of Last Inspection:	June 3, 2019 Annual	**Certified Max Gross Wt.:**	
Time Since Last Inspection:		**Engines:**	Turbo prop
Airframe Total Time:	6092 Hrs as of last inspection	**Engine Manufacturer:**	Pratt & Whitney
ELT:	Installed, not activated	**Engine Model/Series:**	PT6A-112
Registered Owner:	On file	**Rated Power:**	500 Horsepower
Operator:	On file	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	BUM	**Distance from Accident Site:**	
Observation Time:	10:15 Local	**Direction from Accident Site:**	
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	4 knots /	**Turbulence Type Forecast/Actual:**	None / None
Wind Direction:	90°	**Turbulence Severity Forecast/Actual:**	N/A / N/A
Altimeter Setting:	30 inches Hg	**Temperature/Dew Point:**	26°C / 20°C
Precipitation and Obscuration:			
Departure Point:	Vero Beach, FL (VRB)	**Type of Flight Plan Filed:**	IFR
Destination:	Olathe, KS (IXD)	**Type of Clearance:**	IFR
Departure Time:	05:54 Local	**Type of Airspace:**	Class E

Airport Information

Airport:	Butler Memorial Airport BUM	**Runway Surface Type:**	
Airport Elevation:	893 ft msl	**Runway Surface Condition:**	Dry
Runway Used:		**IFR Approach:**	None
Runway Length/Width:		**VFR Approach/Landing:**	None

Wreckage and Impact Information

Crew Injuries:	1 Fatal	**Aircraft Damage:**	Destroyed
Passenger Injuries:		**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 Fatal	**Latitude, Longitude:**	38.350276,-94.340278

The airplane initially impacted a gravel road with the right wing tip in a nose-down, right-wing-low attitude. The right engine/nacelle impacted the ground between the gravel road and a 100-ft-tall grain silo. The left wing struck a steel staircase on the exterior of the silo. The left and right main landing gear also contacted the silo. Rubber tire transfer marks were observed about 20 and 30 ft up the silo steel structure. A small fragment of airplane aluminum was found attached to the silo about 30 ft up. One of the left propeller blades contacted the silo about 15 ft up and left a black, white, and red paint smear on the silo surface. The nose of the airplane struck an air cycle machine at the base of the silo before as the airplane impacted the ground. The airplane then cartwheeled onto the left engine and came to rest inverted about 30 ft from the initial impact point, as shown in figure 3.


Figure 3. Aerial View of Accident Site

The left, right, and nose landing gear were found extended. The flaps were positioned about 10° nose down. Flight control continuity was established from the cockpit to all flight control surfaces. The fuel selector handles in the cockpit were found in cross-feed positions, with the left selector in the right main position and the right selector in the left main position.

The right engine power control lever was found at the full forward position. The right engine propeller condition lever was found about 0.25 inch from minimum. The right engine fuel lever was found in the fuel cutoff position (off). The left engine power control lever was found at the full forward position. The left engine propeller condition lever was found about 0.50 inch back from maximum. The left engine fuel lever was found in the run position (on). The control linkages were impact damaged, and an examination of the available control linkages found no anomalies with the rigging.

The left and right engines were examined during teardowns. No mechanical anomalies were found that could have prevented normal operation.

The left and right engine fuel control units (FCU) were disassembled, and no pre-existing mechanical anomalies were found that could have prevented normal operation. Some contaminants were found in the Py air sections of both FCUs. According to the manufacturer, if an FCU's Py bleed was partially restricted with debris, modulation of power could be altered. Examination of each FCU's Py bleed found no restrictions or blockages.

Examinations of the fuel pumps, propeller governors, and overspeed governors of both engines revealed no mechanical anomalies that could have prevented normal operation.

Medical and Pathological Information

According to the autopsy report from the Office of the Jackson County Medical Examiner, Kansas City, Missouri, the pilot's cause of death was multiple blunt force trauma.

Toxicology testing performed by the Federal Aviation Administration Forensic Sciences Laboratory detected dextromethorphan (an over-the-counter cough medicine commonly marketed as Robitussin), its metabolite dextrorphan, rosuvastatin (a medication to control high cholesterol), and metoprolol (a medication to control high blood pressure) in the pilot's blood and urine. Ramipril (a medication to control high blood pressure) and the over-the-counter pain and inflammation medications acetaminophen, salicylate (aspirin), and ibuprofen were detected only in the pilot's urine. All of these medications are considered non-impairing. No ethanol was detected in the pilot's blood.

Additional Information

According to the Cessna 425 single-engine performance chart, the airplane could have maintained level flight with one engine inoperative if the landing gear and flaps were retracted and the inoperative engine's propeller was feathered. The right engine propeller condition lever was not found in the feather detent position.

Administrative Information

Investigator In Charge (IIC):	Lemishko, Alexander
Additional Participating Persons:	William Taylor; FAA FSDO; Kansas City, MO Pete Bassili; Cessna; Wichita, KS Marc Gratton; Pratt & Whitney; Montreal
Original Publish Date:	March 3, 2022
Last Revision Date:	
Investigation Class:	Class 3
Note:	The NTSB traveled to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=99585