



Aviation Investigation Final Report

Location:	Olathe, Kansas	Accident Number:	CEN22FA119
Date & Time:	February 13, 2022, 10:20 Local	Registration:	N2445F
Aircraft:	PIPER AIRCRAFT INC PA46-500TP	Aircraft Damage:	Destroyed
Defining Event:	Loss of control in flight	Injuries:	1 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The airplane had recently undergone an annual inspection, and the pilot planned to fly the airplane back to his home base. After receiving clearance from air traffic control, the pilot proceeded to take off. The airplane accelerated and reached a peak groundspeed of 81 kts about 2,075 ft down the 4,097-ft runway. Once airborne, the airplane drifted slightly to the right and the pilot radioed an urgent need to return to the airport. The controller cleared the airplane to land and no further transmissions were received from the accident airplane. The airplane's flight path showed that it slowed before turning back toward the left and the airplane's speed continued to decrease throughout the remainder of the data. The final data point recorded the airplane at a groundspeed of 45 kts. The groundspeed would equate to 60 kts airspeed when considering the 15-kt headwind. The stall speed chart for the airplane listed the minimum stall speed for any configuration as 64 kts.

Postaccident examinations of the airframe and engine revealed no evidence of mechanical malfunctions or failures that would have precluded normal operation. External and internal engine damage indicated that the engine was producing power at the time of impact, but the amount of power output could not be determined.

Based on the available information, the pilot perceived an urgent need to return the airplane to the airport; however, due to the amount of damage from the impact and postimpact fire, the reason that the pilot was returning to the airport could not be determined. Stall speed information for the airplane, the recorded winds, and flight track data, indicated that the airplane encountered an aerodynamic stall before impacting the ground near the departure end of the runway. Since the airplane stalled and impacted the ground before reaching the perimeter of the airport, the pilot may not have had sufficient altitude to execute a forced landing to the empty field off the departure end of the runway.

Probable Cause and Findings

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

The unknown emergency that warranted a return to the airport and the airspeed decay which resulted in an aerodynamic stall.

Findings	
Not determined	(general) - Unknown/Not determined
Aircraft	Airspeed - Unknown/Not determined
Aircraft	Angle of attack - Capability exceeded

Factual Information

History of Flight	
Initial climb	Loss of control in flight (Defining event)

On February 13, 2022, at 1020 central standard time, a Piper PA-46-500TP, N2445F, was destroyed when it was involved in an accident at the Johnson County Executive Airport (OJC), Olathe, Kansas. The pilot was fatally injured. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 personal flight.

The airplane had recently undergone an annual inspection, and the pilot planned to fly the airplane back to his home base of operations. An instrument flight rules (IFR) flight plan had been filed for the flight from OJC to the Albuquerque International Sunport Airport (ABQ), Albuquerque, New Mexico. Communication data indicated that the pilot contacted the OJC controller and the OJC controller issued an IFR clearance for the flight to ABQ. Once the airplane had taxied to the runway, the OJC controller issued a takeoff clearance with instructions to fly a heading of 340° to an altitude of 5,000 ft msl. About one minute later, the pilot informed the tower controller that he urgently needed to return, and the tower controller cleared the airplane to land. The pilot did not provide a reason for the return, and no further transmissions were received from the accident airplane.

Flight track data for the accident flight showed that the airplane began the takeoff roll on runway 36 at OJC at 1019:42. The airplane accelerated and reached a peak ground speed of 81 kts about 2,075 ft down the 4,097 ft long runway. Once airborne, the airplane drifted slightly to the right and slowed before it turned back toward the left. The airplane's groundspeed continued to decrease throughout the remainder of the data. The final three data points showed the airplane's groundspeed as 49 kts, 47 kts, and 45 kts respectively. The final recorded position was about 100 ft southeast of the initial impact point.



Figure 1. Overview of accident flight track with time, altitude, ground speed, and heading information.



Figure 2. Final segment of accident flight track in profile view looking from southwest to northeast.

Pilot Information

Certificate:	Private	Age:	51,Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	Unknown
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:	August 26, 2020
Occupational Pilot:	No	Last Flight Review or Equivalent:	
Flight Time:	354 hours (Total, all aircraft)		

The pilot reported on his application for his most recent medical certificate that he had 354 hours total flight experience with 66 hours in the six months preceding the examination. No further pilot flight records were made available during the investigation.

Aircraft and Owner/Operator Information

Aircraft Make:	PIPER AIRCRAFT INC	Registration:	N2445F
Model/Series:	PA46-500TP	Aircraft Category:	Airplane
Year of Manufacture:	2012	Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	4697480
Landing Gear Type:	Retractable - Tricycle	Seats:	6
Date/Type of Last Inspection:	February 11, 2022 Annual	Certified Max Gross Wt.:	5092 lbs
Time Since Last Inspection:	0 Hrs	Engines:	1 Turbo prop
Airframe Total Time:	2170 Hrs as of last inspection	Engine Manufacturer:	P&W CANADA
ELT:	Installed, activated, did not aid in locating accident	Engine Model/Series:	PT6A-42A
Registered Owner:	Quadrant Investments 1, LLC	Rated Power:	850 Horsepower
Operator:	Quadrant Investments 1, LLC	Operating Certificate(s) Held:	None

The "Pilot's Operating Handbook and [Federal Aviation Administration] Approved Airplane Flight Manual" for the airplane showed the airplane's stall speed when lightly loaded, flaps at 36°, and landing gear extended, was 64 knots indicated airspeed (IAS). This was the lowest published stall speed for any configuration or weight. With flaps at 0° and the landing gear retracted, the stall speed was depicted as 74 knots IAS. There was no chart depicting stall speeds for flaps at 10° and landing gear extended.

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	KOJC,1070 ft msl	Distance from Accident Site:	0 Nautical Miles
Observation Time:	09:53 Local	Direction from Accident Site:	335°
Lowest Cloud Condition:	Clear	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	15 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	360°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30.35 inches Hg	Temperature/Dew Point:	-2°C / -12°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Olathe, KS	Type of Flight Plan Filed:	IFR
Destination:	Albuquerque, NM (ABQ)	Type of Clearance:	IFR
Departure Time:		Type of Airspace:	Class D

Airport Information

Airport:	JOHNSON COUNTY EXEC OJC	Runway Surface Type:	Concrete
Airport Elevation:	1096 ft msl	Runway Surface Condition:	Dry
Runway Used:	36	IFR Approach:	None
Runway Length/Width:	4097 ft / 75 ft	VFR Approach/Landing:	None

Wreckage and Impact Information

Crew Injuries:	1 Fatal	Aircraft Damage:	Destroyed
Passenger Injuries:		Aircraft Fire:	On-ground
Ground Injuries:		Aircraft Explosion:	None
Total Injuries:	1 Fatal	Latitude, Longitude:	38.847598,-94.737584

The airplane impacted the ground on the extended runway centerline about 400 ft past the departure end of runway 36. The airplane came to rest upright with its fuselage oriented in a southeasterly direction. A postimpact fire that burned the wings and forward fuselage aft to the rear spar carry-through structure. The fuselage aft of the cabin, including the empennage,



was intact. There was a fan shaped burn area on the ground that extended from the aircraft wreckage in a southerly direction.

Figure 3. The aircraft wreckage at the accident site looking south.

Postaccident examinations of the airframe did not indicate any preimpact structural failures of the airplane. Flight control continuity was verified from the control surfaces into the cabin area. Impact and fire damage precluded comprehensive determination of the integrity of the cockpit flight controls; however, no preimpact anomalies were noted. The flap jackscrew extension found at the accident site corresponded to about 10° flap extension. The landing gear was in the extended position.

Examination of the engine showed that the engine exhaust duct had visible angular deformation, consistent with torsional loading. Several internal engine components had rub marks and damage that were consistent with engine rotation during the impact sequence. The propeller shaft was fractured consistent with torsional overload.

Further testing and examination of the propeller governor, overspeed governor, torque limiter, fuel-oil heat exchanger, fuel pump and fuel control were conducted and did not reveal any preimpact anomalies.

Examination of the propeller revealed that all five of the propeller blades were broken off at the root with the blade roots still present in the propeller hub. Internal impact damage suggested that the propeller blade angle was between 26-34°, corresponding to a cruise power setting.

Administrative Information

Investigator In Charge (IIC):	Brannen, John
Additional Participating Persons:	David Woods; FAA FSDO; Kansas City, MO Jon Hirsh; Piper; Wichita, KS Mitch Mitchell; FAA Jeff Davis; Pratt & Whitney Canada
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Investigation Class:	Class 3
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=104632

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