

National Transportation Safety Board - Aircraft Accident/Incident Database

Accident Rpt# CEN16FA094	02/01/2016 1015 CST	Regis# N323BR	Arcola, TX	Apt: Houston Southwest KAXH
Acft Mk/Mdl COSTRUZIONI AERONAUTICHE TECNA	Acft SN 986	Acft Dmg: DESTROYED	Rpt Status: Factual	Prob Caus: Pending
Eng Mk/Mdl ROTAX 912	Acft TT 2386	Fatal 1	Ser Inj 1	Flt Conducted Under: FAR 091
Opr Name: HOUSTON LIGHTSPORT AVIATION, LLC	Opr dba:		Aircraft Fire: GRD	AW Cert: LTSP

Events

2. Takeoff - Loss of control in flight

Narrative

HISTORY OF FLIGHT

On February 1, 2016, about 1015 central standard time, a Tecnam P92 light sport airplane, N323BR, impacted terrain near Arcola, Texas. The flight instructor was fatally injured; the student pilot was seriously injured; and the airplane was destroyed. The airplane was registered to and operated by Houston Light Sport Aviation, LLC, under the provisions of 14 Code of Federal Regulations Part 91 as an instructional flight. Visual meteorological conditions prevailed, and the airplane was not on a flight plan. The local flight was originating from the Houston Southwest Airport (AXH), Houston, Texas, at the time of the accident.

A witness reported that the airplane departed on runway 9, and when it was about midfield, the airplane was in a nose-high attitude. The airplane's left wing dropped, and the airplane entered a descending left turn.

The airplane then collided with two airplanes that were parked by a hangar adjacent to a parallel taxiway. The accident airplane came to rest on one of the parked airplanes, and a post-crash fire consumed the majority of the accident airplane and one of the parked airplanes.

The student pilot was interviewed while he was recovering in the hospital. He stated that he and the instructor completed some ground school training. The plan was then to conduct traffic pattern work including downwind and base legs. Before taxiing out, they saw an airplane depart from runway 27; however, they noted that, based on the current wind condition, the runway in use should have been runway 9. The student pilot added that he was conducting the takeoff with the instructor assisting. He applied full power, and, about 200 ft above ground level, the airplane started to drift left. He attempted to correct the drift to stay on the runway centerline. According to the student pilot, it felt like the engine was losing power, and the nose was dropping. He stated that he was pulling back on the controls and that the instructor was also pulling back. At that point, he knew they were going to crash, and there was nothing they could do to prevent it.

PILOT INFORMATION

The flight instructor held a commercial pilot certificate with ratings for airplane single-engine land, airplane multi-engine land, and instrument airplane. Additionally, he held a ground instructor certificate and a flight instructor certificate with airplane single- and multi-engine and instrument airplane ratings. The flight instructor was issued a special issuance first class medical certificate on July 27, 2015. At the time of the exam, the instructor reported he had 6,161.1 total flight hours and 30.5 hours in the previous six months. A review of flight club records revealed that he had 6 flight hours in the Tecnam P92.

The student pilot had four previous flights with the flight instructor and did not hold a student pilot certificate. A review of club records revealed that the student had approximately 5.1 total flight hours.

AIRCRAFT INFORMATION

The accident airplane was a Tecnam P92, a high-wing, single-engine, light sport airplane, with fixed landing gear. It was powered by a 100-horsepower, 4-cylinder, reciprocating Rotax 912 engine, and a fixed pitch propeller. The airplane's airworthiness certificate is in the Special, Light Sport (S-LSA) category. The fuselage was a semi-monocoque construction with a mixture of thin aluminum covered tube structure. A review of the airplane's maintenance records revealed that the last condition inspection was completed October 22, 2015, at an airplane and engine total time of 2,385.57 hours.

METEOROLOGICAL INFORMATION

At 1015, the automated weather observation facility (AWOS) located at AXH recorded, wind 120 at 6 knots, 7 miles visibility, scattered clouds at 1,500 ft with a ceiling at 2,000 ft, temperature of 68 F, dew point 64 F, and an altimeter setting of 29.88 inches of mercury.

AIRPORT INFORMATION

The Houston Southwest Airport (AXH) is a public-use, non-towered airport, located 15 miles southwest of Houston, Texas. Pilots use common traffic advisory frequency (CTAF) for communications. The airport has a single asphalt runway; runway 9/27, measuring 5,002 ft. long by 100 ft. wide. The airport is at an elevation of 68.9 ft mean sea level and has an AWOS station located on the field.

WRECKAGE AND IMPACT INFORMATION

The on-site examination of the wreckage revealed the airplane impacted a parked Cessna 172, and came to rest on a Gulfstream American AA5A airplane. A survey of the area did not reveal any ground scars between the runway and the ramp area where the airplane impacted the Cessna. A postcrash fire consumed much of the AA5A, the accident airplane, and limited the examination of the accident airplane.

The wreckage came to rest facing the runway. The right wing had extensive thermal damage with the inboard section of the wing and flap consumed by the fire. The left wing was consumed by the fire and its remnants were indistinguishable from the remnants of the AA5A. The main cabin was consumed by fire with only a tubular type frame remaining; the empennage had thermal damage but was largely intact. The engine compartment and forward fuselage were mostly consumed by fire. The propeller and nose cone were thermally damaged, and only a piece of the two-bladed propeller was located outside the fire damage area.

Aileron continuity was established at each of the wing bellcranks; however, sections of the push-pull tubing were consumed by the fire. Additionally, the control cable connection points were separated; each fastener was either consumed or melted by the fire. The elevator push-pull tube was consumed forward of the empennage. Rudder control continuity was established to the cockpit rudder pedals. The flap actuator position was compared to an exemplar actuator on a similar airplane; the actuator position corresponded to a flap retracted position.

The firewall and part of the instrument panel were consumed by the fire. The engine also received extensive fire damage. The engine intake/carburetors and fuel pump were in place but were partly consumed by the fire. Fire damage prevented the engine from being rotated by hand. The engine's propeller speed reduction unit (PSRU) was disassembled; a visual inspection revealed no discrepancies with the internal gears. The top sparkplugs were removed and exhibited light colored combustion deposits and the electrodes exhibited normal signatures.

No preimpact abnormalities were noted during the airframe or engine examinations.

MEDICAL AND PATHOLOGICAL INFORMATION

The Galveston County Medical Examiner's Office, Texas City, Texas, conducted an autopsy on the flight instructor. The cause of death was determined to be "blunt force trauma and thermal injury".

The FAA Bioaeronautical Sciences Research Laboratory, Oklahoma City, Oklahoma, conducted toxicological testing on the flight instructor. The specimens were not tested for cyanide. The tests were negative for ethanol and carbon monoxide. The tests were positive for lipizide in urine and blood, and alicylate in

urine.

Glipizide is a prescription medication typically used to treat type 2 diabetes.

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Accident Rpt# CEN17LA079	01/01/2017 1130 CST	Regis# N415HC	New Braunfels, TX	Apt: N/a
Acft Mk/Mdl QUICKSILVER GT-400 R503-NO SERIE	Acft SN 1504	Acft Dmg: SUBSTANTIAL	Rpt Status: Factual	Prob Caus: Pending
Eng Mk/Mdl ROTAX 503	Acft TT 192	Fatal 0 Ser Inj 0	Flt Conducted Under: FAR 091	
Opr Name: ON FILE	Opr dba:	Aircraft Fire: NONE		AW Cert: SPX

Events

1. Enroute-cruise - Loss of engine power (partial)

Narrative

On January 1, 2017, about 1130 central standard time, a Quicksilver GT-400 R503 experimental light sport airplane, N415HC, impacted power lines during a forced landing following a partial loss of engine power near New Braunfels, Texas. The sport pilot, who was the sole occupant, was not injured, and the airplane sustained substantial damage. The airplane was registered to and operated by a private individual as a 14 Code of Federal Regulations Part 91 personal flight. Visual meteorological conditions prevailed at the time of the accident and a flight plan was not filed. The local flight departed a private airstrip about 1110.

According to the pilot/owner, about 15 minutes into the pleasure flight, the engine began "sputtering" and losing power. The pilot attempted to correct the problem by adjusting the throttle and applying engine primer. The attempts were unsuccessful in restoring engine power. The pilot then identified a field for a forced landing. During the forced landing, the right main landing gear struck a power line. After impacting the power line, the airplane flipped inverted, and dropped about 20 feet onto a carport rooftop. The pilot exited the airplane.

Examination of the airplane by Federal Aviation Administration inspectors revealed both wings were bent and the wing fabric was damaged. No visual anomalies with the engine were noted.

After the airplane was recovered from the carport, the pilot and a few friends examined the airplane and systems. The pilot noticed that one of the four engine spark plugs was loose in the cylinder. The pilot determined that the loose spark plug led to a loss of compression and partial loss of engine power during the accident flight. The pilot's safety recommendation, as noted in the pilot/operator accident report, stated "closer inspection of checking spark plugs before flight."

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Accident Rpt# CEN15FA032	10/28/2014 1433 CDT	Regis# N70PM	Boerne, TX	Apt: John Henry Key 7TA8
Acft Mk/Mdl LANGSTON, FREDERICK L RV 4		Acft SN 2748	Acft Dmg: DESTROYED	Rpt Status: Factual Prob Caus: Pending
Eng Mk/Mdl LYCOMING O-320-D2J		Acft TT 50	Fatal 1 Ser Inj 0	Flt Conducted Under: FAR 091
Opr Name: FREDERICK L LANGSTON		Opr dba:		Aircraft Fire: GRD
				AW Cert: SPE

The private pilot was flying his experimental, amateur-built airplane at an altitude between 500 and 800 ft above ground level when several witnesses heard the engine sounds suddenly stop. The airplane then entered a steep bank toward a nearby airstrip, descended, and disappeared from view. The airplane impacted thickly-wooded, rocky terrain and came to rest upright about 100 ft from the edge of the runway. Although the airplane was destroyed by post-crash fire, examination of the wreckage revealed no evidence of preimpact mechanical malfunctions or failures that would have precluded normal operation. The weather conditions at the time of the accident were conducive to the formation of carburetor icing at cruise power and a potential for serious carburetor icing at glide power; however, it could not be determined if or to what extent the engine may have accumulated carburetor ice.

Cause Narrative

THE NATIONAL TRANSPORTATION SAFETY BOARD DETERMINED THAT THE CAUSE OF THIS OCCURRENCE WAS: A total loss of engine power for reasons that could not be determined, because post accident examination did not reveal any mechanical malfunctions or anomalies that would have precluded normal operation.

Events

1. Maneuvering - Loss of engine power (total)
2. Emergency descent - Off-field or emergency landing
3. Landing - Collision with terr/obj (non-CFIT)
4. Post-impact - Fire/smoke (post-impact)
5. Post-impact - Explosion (post-impact)
6. Post-impact - Cabin safety event

Findings - Cause/Factor

1. Not determined-Not determined-(general)-(general)-Unknown/Not determined - C

Narrative

HISTORY OF FLIGHT

On October 28, 2014, about 1433 central daylight time, an experimental, amateur-built RV-4, N70PM, was destroyed during an off-airport forced landing near John Henry Key Airport (7TA8), Boerne, Texas. The pilot, who was the sole occupant, was fatally injured. The airplane was registered to and operated by the pilot. Day visual meteorological conditions prevailed at the time of the accident, and no flight plan was filed for the 14 Code of Federal Regulations Part 91 local, personal flight. The airplane departed from Boerne Stage Field Airport (5C1), Boerne, Texas at an unknown time.

Several witnesses reported that the airplane was maneuvering between 500 and 800 ft above ground level when the engine sounds suddenly stopped. The airplane then entered a steep bank, began flying toward 7TA8, descended, and disappeared from their view. The airplane impacted trees and terrain and came to rest upright about 100 feet from the edge of runway 22 at 7TA8. There was an immediate postimpact fire that consumed much of the airplane. The pilot initially survived the accident, but succumbed to his injuries the following day.

PERSONNEL INFORMATION

The pilot, age 70, held a Federal Aviation Administration (FAA) private pilot certificate with ratings for airplane single-engine land and instrument airplane. His most recent third-class FAA medical certificate was issued on September 25, 2014, with the restriction that he must have glasses available for near vision.

Complete copies of the pilot's personal flight records were not available for examination; however, review of the pilot's most recent logbook indicated that he had 1,687 hours of total flight experience. The pilot's flight experience in the accident airplane make and model was about 50 hours, with 10.6 of those flight hours accumulated within the previous three months. The pilot's most recent flight review was completed on January 16, 2013.

AIRCRAFT INFORMATION

National Transportation Safety Board - Aircraft Accident/Incident Database

The airplane was issued an FAA special airworthiness certificate on March 2, 2013. The low-wing, fixed conventional landing gear, single-engine airplane was powered by a 155-horsepower Lycoming O-320-D2J carbureted engine, which drove a Performance Propellers, Inc. model 70/70, 2-bladed, fixed-pitch, wood propeller. The airplane was of conventional aluminum construction with a cantilever low-wing, conventional tail surfaces, and a 2-seat tandem cockpit, which was accessed through a hinged canopy. A maintenance logbook entry showed the airplane had an empty weight of 939 pounds and a maximum gross weight of 1,500 pounds. The airplane's most recent condition inspection was completed on May 12, 2014, at an aircraft total time of 23.7 hours.

Review of the aircraft logbook, engine logbook, pilot logbook entries and other records indicated that at the time of the accident, the airplane had accumulated a total time of 50.1 hours, and the engine had accumulated a total time of 1,825.1 hours.

METEOROLOGICAL INFORMATION

At 1435, the automated weather observation system at 5C1, about 8 miles south of the accident site, reported wind from 200 degrees at 3 knots, visibility 10 miles, scattered clouds at 2,800 ft, temperature 27°C, dew point 17°C, with an altimeter setting of 30.03 inches of mercury. Review of a carburetor icing probability chart showed the potential for icing at cruise power and a potential for serious icing at glide power.

AIRPORT INFORMATION

7TA8 was a non-towered airport with a field elevation of 1,400 ft msl. The only runway was 4/22, which was a turf runway 2,300 ft long by 100 ft wide. The airport was surrounded by rugged hilly terrain, with much of the area thickly wooded.

WRECKAGE AND IMPACT INFORMATION

The airplane impacted densely-wooded, hilly terrain on a south-southwesterly heading at an estimated elevation about 1,400 ft msl. The impact location was about 200 ft northwest of the runway 22 at 7TA8.

The first impact was to upper branches of cedar trees at about 8 ft above ground level. Both impact-separated propeller blades were found nearby. Ground scars, wreckage debris, and numerous broken branches littered the area along a wreckage distribution path of about 145°.

All flight control surfaces and all major components of the airplane were accounted for at the accident site. The main wreckage came to rest upright about 89 ft from the initial tree impact. The tip of the left wing was oriented about 190°, and the partially-separated upright fuselage was oriented about 300°. The engine and engine mount remained connected to the forward firewall. The engine and forward firewall were adjacent to the forward fuselage, which was almost completely separated from the fuselage by fire damage. The hub of the wood propeller remained attached to the propeller flange on the engine crankshaft, but was partially consumed by fire.

The empennage and tail surfaces were completely separated from the airplane, and came to rest partially inverted about 10 ft northwest of the engine. The vertical stabilizer had leading edge impact damage at the root. No significant impact damage was observed to the horizontal stabilizer. The elevator, rudder, and rudder trim tab remained attached. The tail wheel remained attached.

The impact-damaged right wing was mostly consumed by fire, and the right aileron remained partially attached.

The leading edge of the outboard left wing showed impact crushing damage consistent with a 70° nose-down impact angle. The left aileron exhibited impact crushing damage to the inboard trailing edge consistent with impact with a tree. The outer portion of the left wing was not consumed by fire. During wreckage removal, about 2 gallons of clean blue liquid consistent with 100LL aviation fuel (AVGAS) drained from the wing into a clean bucket. No debris or water contamination was observed. The fuel caps on both wings were secure.

The left flap was observed in the full-down position. The position of the right flap could not be determined because of fire and impact damage.

The flight control linkages and engine controls were examined. Severe impact and thermal damage prevented a confirmation of preimpact control continuity; however, all of the control linkage separations examined appeared consistent with impact damage.

MEDICAL AND PATHOLOGICAL INFORMATION

An autopsy was performed on the pilot by the Bexar County Medical Examiner's Office in San Antonio, Texas. The conclusion was that the pilot died as a result of conflagration injuries sustained in the airplane crash.

The FAA Bioaeronautical Sciences Research Laboratory, Oklahoma City, Oklahoma, performed forensic toxicology on specimens from the pilot. Lorazepam, midazolam, morphine, norketamine, and propofol was detected. These medications were traced to the pilot's post-accident hospital care. Testing also detected cetirizine, an over-the-counter antihistamine, in liver and blood; however, the amount of cetirizine detected was too low to quantify.

TESTS AND RESEARCH

The wreckage was moved to another location for further engine examination. The engine and accessories sustained impact, fire, and heat damage. The exhaust system and induction system displayed significant heat and impact damage. The carburetor had separated on impact and also displayed thermal damage. All fluid-carrying lines in the engine compartment were fire-damaged. The oil system was impact- and fire-damaged. Severe thermal damage to the engine prevented a useful examination of the magnetos, fuel pump, carburetor, or any other components. On first attempts, the engine would not rotate. After engine accessories were removed, the engine was partially disassembled to facilitate another attempt to rotate the engine. The crankshaft and valve train then rotated freely with no interference.

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Accident Rpt# CEN17LA156	04/17/2017	1341 CDT	Regis# N912XV	Knoxville, IA	Apt: Knoxville Municipal OXV
Acft Mk/Mdl LOOMIS XENON 4			Acft SN	Acft Dmg: SUBSTANTIAL	Rpt Status: Prelim Prob Caus: Pending
Eng Mk/Mdl ROTAX 912 TURBO				Fatal 0 Ser Inj 0	Flt Conducted Under: FAR 091
Opr Name: MILES LOOMIS			Opr dba:		Aircraft Fire: NONE
					AW Cert: SPE

Events

1. Initial climb - Loss of engine power (partial)

Narrative

On April 17, 2017, about 1341 central daylight time, an experimental, amateur-built Loomis Xenon 4 gyroplane, N912XV, sustained substantial damage after takeoff from the Knoxville Municipal Airport (OXV), Knoxville, Iowa. The gyroplane climbed to about 500 ft above ground level when it experienced a loss of power, and during the forced landing, it hit a powerline and landed in a ditch. The pilot and passenger were not injured. The gyroplane was owned and operated by the pilot under the provisions of the 14 Code of Federal Regulations Part 91 as a personal flight. Visual meteorological conditions prevailed for the flight which was not on a flight plan. The flight was departing OXV on a local flight.

At 1255, the surface weather observation at the Pella Municipal Airport (PEA), Pella, Iowa, located 10 nm northeast of OXV was: wind 270 at 6 knots; sky clear; 10 miles visibility; temperature 21 degrees C; dew point 3 degrees C; altimeter 30.16 inches of mercury.

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Accident Rpt# ERA16LA076	12/19/2015 1120 AST	Regis# N124LP	Guanica, PR	Apt: N/a
Acft Mk/Mdl PORRATA LUIS G RANS S 12XL-NO	Acft SN 06061007	Acft Dmg: SUBSTANTIAL	Rpt Status: Factual	Prob Caus: Pending
Eng Mk/Mdl ROTAX 582	Acft TT 213	Fatal 0 Ser Inj 0	Flt Conducted Under: FAR 091	
Opr Name: RAFAEL CORTES RAMOS	Opr dba:		Aircraft Fire: NONE	
			AW Cert: SPE	

Events

1. Enroute-cruise - Loss of engine power (total)

Narrative

On December 19, 2015, about 1120 Atlantic standard time, an experimental amateur-built Rans S-12XL, N124LP, was substantially damaged during a forced landing following a total loss of engine power near Guanica, Puerto Rico. The sport pilot was not injured. Visual meteorological conditions prevailed, and no flight plan was filed for the flight, which originated from Dr. Hermenegildo Ortiz Quinones Airport (X63), Humacao, Puerto Rico, about 1015, and was destined for Eugenio Maria de Hostos Airport (TJMZ), Mayaguez, Puerto Rico. The personal flight was conducted under the provisions of Title 14 Code of Federal Regulations Part 91.

According to the pilot, he performed a preflight and engine run-up with no anomalies noted. He flew the airplane for about an hour before the engine "sounded weird," then began to lose power, until it lost power completely. The pilot unsuccessfully attempted to restart the engine two times using the emergency checklist prior to performing a forced landing to a field. During the landing, the airplane incurred substantial damage to the fuselage.

According to Federal Aviation Administration records, the airplane was manufactured in 2009 and registered the pilot in May 2015. It was equipped with a Rotax 582 series engine that was manufactured in 2005. According to airplane maintenance logbooks, the most recent 100-hour inspection was completed on September 26, 2015, and at that time, the airplane had accumulated 213 hours of total time.

According to the manufacturer's guidance, a general overhaul of the engine was "to be carried out every five years or every 300 hours, whichever comes first." There were no entries in the maintenance logs that indicated an engine overhaul had taken place. According to the checklist from the maintenance manual, which was the checklist that the mechanic initialed as items accomplished, item 38 "General overhaul of engine" was marked as "N/A." A manufacturer representative indicated that an overhaul consisted of at least a complete engine teardown, the replacement of all bearings, seals, gaskets, crankshaft, and piston rings.

An examination of the engine revealed that there was fuel noted in the fuel tanks, fuel pump, fuel filter, and both carburetors. One spark plug was removed from each cylinder and thumb compression was obtained from all cylinders. However, when the propeller was rotated by hand, a metal scraping sound was heard. The engine oil was drained and metal particles were noted in the oil. The tachometer in the cockpit indicated 228 total hours of time.

The engine was further examined and the power take off intake had several pieces of bearing material, and one piece specifically that was contacting the rotary valve disc, which was making the scraping noise. In addition, the bearing material was noted in the combustion chamber and exhaust sections of the power take off side of the engine. The cylinder head of the power take off side was removed and revealed damage to the piston head. Next, the power take off cylinder was removed. Corrosion and damage was noted on the connecting rod and the fractured connecting rod bearing.

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Accident Rpt# CEN16FA209	06/07/2016 1020 CDT	Regis# N921RP	De Smet, SD	Apt: N/a
Acft Mk/Mdl PRUSS RICHARD S KITFOX IV-IV		Acft SN 1589	Acft Dmg: SUBSTANTIAL	Rpt Status: Factual Prob Caus: Pending
Eng Mk/Mdl ROTAX 582LC		Acft TT 443	Fatal 1 Ser Inj 1	Flt Conducted Under: FAR 091
Opr Name: ON FILE		Opr dba:		Aircraft Fire: NONE
				AW Cert: SPE

Events

1. Maneuvering-low-alt flying - Loss of control in flight

Narrative

HISTORY OF FLIGHT

On June 7, 2016, about 1020 central daylight time, an amateur-built Kitfox IV single-engine airplane, N921RP, impacted a lake following a loss of control while maneuvering at a low altitude near De Smet, South Dakota. The private pilot sustained fatal injuries, the passenger sustained serious injuries, and the airplane sustained substantial damage. The airplane was registered to and operated by the pilot as a 14 Code of Federal Regulations Part 91 personal flight. Visual meteorological conditions prevailed at the time of the accident, and a flight plan was not filed. The local flight departed from Lake Preston Municipal Airport (Y34), Lake Preston, South Dakota, about 0929.

According to the passenger, who held a student pilot certificate and was interviewed by a Federal Aviation Administration (FAA) inspector, the pilot picked him up at Y34 to assist in a search for a boat that sank in Lake Thompson on June 3, 2016. The pilot and passenger spotted the boat and then flew a right "racetrack" pattern about 150 ft above ground level. While maneuvering, the airplane was banked about 45 to 60 degrees at an airspeed of about 50 miles per hour. During one of the turns, the airplane "snapped over" and the pilot told the passenger that the airplane stalled. The airplane spun about 1.5 to 2 rotations, impacted the lake, and sank. The passenger stated the engine operated normally until the impact with the water.

According to local authorities, the passenger was rescued by persons assisting in the boat recovery. Efforts to rescue the pilot were unsuccessful.

PERSONNEL INFORMATION

The pilot held a private pilot certificate with an airplane single-engine land rating. The pilot's most recent third class medical certificate was issued on January 26, 2015, with a limitation for corrective lenses.

A review of the pilot's logbook, noted as "Logbook Number 5", revealed that the first logbook entry was dated February 14, 2015, and the last logbook entry was dated June 5, 2016. According to the information contained in the logbook, at the time of the last logbook entry, the pilot had accumulated 1,179.2 total flight hours, of which 28.7 hours were in the accident airplane.

AIRCRAFT INFORMATION

The two-seat, high-wing, tail-wheel configured airplane, serial number 1589, was manufactured in 1991. The airplane was powered by a Rotax 582 LC 65-horsepower engine, and was equipped with a composite 3-blade ground-adjustable propeller. The airplane was purchased by the pilot on May 10, 2010.

The most recent condition inspection was completed on July 11, 2015, at a total airframe and engine time of 432.6 hours. The hour meter reading observed at the accident site was 442.5 hours.

METEOROLOGICAL INFORMATION

At 0956, the automated weather observing system at the Brookings Regional Airport (BKK), Brookings, South Dakota, located about 30 miles east of the accident site, recorded the following weather conditions: wind calm, sky clear, temperature 17 degrees Celsius, dew point 7 degrees Celsius, and an altimeter setting of 30.04 inches of mercury.

WRECKAGE AND IMPACT INFORMATION

National Transportation Safety Board - Aircraft Accident/Incident Database

The airplane was recovered from the lake and examined at a facility near Lake Thompson. Examination of the airplane showed that the fuselage was buckled near the aft cabin bulkhead. The forward fuselage was crushed up and aft. The left wing displayed compression bending aft near the wing root, and the forward wing attachment was fractured. The left flaperon remained attached and its control fitting was fractured. The fracture was consistent with impact damage. The right wing remained attached to the fuselage and sustained minor damage. The right flaperon remained attached.

The empennage was intact with the rudder and elevator attached and minor damage was noted to the bottom of the rudder. The tailwheel remained attached and both main landing gears were separated from the fuselage.

Flight control continuity was established from the cockpit controls to the respective flight control surfaces.

The seat restraints were attached to the fuselage and were found unbuckled. The flap handle was observed in the up or retracted position. The throttle was pulled out about 1.5 inches, and the fuel selector was on.

The engine remained attached to the engine mount and fuselage. The propeller remained attached to the engine, and the propeller was manually rotated. Manual rotation of the propeller revealed compression and mechanical continuity throughout the engine. Two propeller blades were fractured aft near the blade root.

MEDICAL AND PATHOLOGICAL INFORMATION

The autopsy of the pilot was performed at the Sanford Health Pathology Clinic, Sioux Falls, South Dakota. The cause of death was asphyxia due to drowning during an airplane accident. Toxicology testing by the FAA Civil Aerospace Medical Institute was negative for all substances tested.

TEST AND RESEARCH

The SD card from an iFly 700 Adventure Pilot GPS that was recovered from the airplane was submitted to the NTSB Vehicle Recorder Division for data recovery. The card was undamaged and data was recovered normally. The data extracted included 164 track logs from February 14, 2009, through June 7, 2016. The accident flight was recorded starting at 0929:12 and ending at 1019:51.

The GPS data parameters recorded were the following: date, time, latitude, longitude, GPS speed, true course, and GPS altitude.

According to the data, the flight departed Y34 at 0929, turned southwest, and climbed to about 2,300 feet GPS altitude. As the airplane approached Lake Thompson, it descended to between 2,000 and 2,100 feet mean sea level (msl); Lake Thompson is at 1,700 feet msl. The airplane began flying a north/south pattern with 3.5 to 4 nautical mile legs. At 1007, the airplane began circling a point towards the western side of the lake. The last recorded data point was at 1019:51 at a GPS altitude of 1,955 feet and a ground speed of 34 knots. Due to data buffering on the GPS unit, the data recording may have ended before the airplane impacted the lake.

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Accident Rpt# CEN17LA004	10/02/2016 1557 CDT	Regis# N6666D	Mandan, ND	Apt: Mandan Municipal Airport Y19
Acft Mk/Mdl VOLAIRCRAFT 10A-NO SERIES		Acft SN 10A-026	Acft Dmg: DESTROYED	Rpt Status: Factual Prob Caus: Pending
Eng Mk/Mdl LYCOMING O-320		Acft TT 2100	Fatal 0 Ser Inj 0	Flt Conducted Under: FAR 091
Opr Name: RITZ RODNEY		Opr dba:		Aircraft Fire: GRD
				AW Cert: STN

Events

1. Landing - Loss of control in flight
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Narrative

On October 2, 2016, about 1557 central daylight time, a Volaircraft 10A airplane, N6666D, registered to the student pilot, was destroyed by post impact fire after it landed short of runway 13 at the Mandan Municipal Airport (Y19), Mandan, North Dakota. The student pilot, who was the sole occupant, was not injured. The flight was being conducted under the provisions of Federal Code of Regulations Part 91. Visual meteorological conditions prevailed and a flight plan was not filed. The local flight had originated from Y19.

According to local respondent authorities, the airplane landed short of the runway and skidded to a stop beside the paved runway surface. After the student pilot exited uninjured, the airplane caught fire and was destroyed. The student pilot did not report any mechanical problems prior to the event and there were no witnesses. On NTSB Form 6120, the student pilot stated that he encountered turbulence on final approach and pushed the airplane downward. He stated that a fuel line ruptured upon impact and sparks ignited, resulting in a post-impact fire. There were three distinct ground impressions in a grassy area just prior to the paved runway threshold. The impressions correlated with the fixed landing gear of the aircraft. Visual inspection of the wreckage by an FAA inspector revealed that the fuel/gascolator line had ruptured during the impact.

The reported local weather at the time of the accident was: Wind 130 at 3 knots, 10 miles visibility, temperature 22 C, dew point 13 C, altimeter 29.92. Soon after the accident when the aircraft was still on fire, a photo was taken of the accident scene by first responders. The photo shows billowing smoke going straight up from the fire. the photo is included in the public docket for this case file.

According to the FAA and the pilot's submitted NTSB Form 6120, the student pilot reported a total of 20 hours of total flight time, all of which were flown in the accident airplane.