

National Transportation Safety Board - Aircraft Accident/Incident Database

Accident Rpt# ERA17LA247 07/16/2017 2010 EDT Regis# N55US Shirley, NY Apt: Brookhaven Airport HWV
Acft Mk/Mdl AEROPRAKT A 20 VISTA CRUISER-N Acft SN 047 Acft Dmg: SUBSTANTIAL Rpt Status: Factual Prob Caus: Pending
Eng Mk/Mdl ROTAX 912 S Acft TT 430 Fatal 0 Ser Inj 0 Flt Conducted Under: FAR 091
Opr Name: YURIY KOZIY Opr dba: Aircraft Fire: NONE
AW Cert: SPX

Summary

The private pilot reported that he was conducting touch-and-go landings and that, while on final approach, the experimental, light sport airplane encountered a downdraft, and the engine lost total power. The pilot was unable to restart the engine or glide the airplane to the runway, and it impacted trees.

The engine was test run successfully several times, and no anomalies were noted. The engine's choke control was located near the throttle lever. During the test runs, the engine lost total power if the choke control was moved about halfway (1 inch). It is likely that the pilot's hand was on the throttle lever and that it inadvertently bumped the choke control during the downdraft encounter, which resulted in a total loss of engine power.

Cause Narrative

THE NATIONAL TRANSPORTATION SAFETY BOARD DETERMINED THAT THE CAUSE OF THIS OCCURRENCE WAS: The pilot's inadvertent activation of the engine's choke control during a downdraft encounter, which resulted in a total loss of engine power.

Events

1. Approach-VFR pattern final - Loss of engine power (total)
2. Emergency descent - Off-field or emergency landing
3. Landing - Collision with terr/obj (non-CFIT)

Findings - Cause/Factor

1. Personnel issues-Action/decision-Action-(general)-Pilot - C
2. Environmental issues-Conditions/weather/phenomena-Wind-Downdraft-Effect on operation - C
3. Aircraft-Aircraft power plant-Engine controls-(general)-Unintentional use/operation - C

Narrative

On July 16, 2017, about 2010 eastern daylight time, an experimental light sport Aeroprakt A-20 Vista Cruiser, N55US, was substantially damaged during a forced landing into trees, following a total loss of engine power on final approach to Brookhaven Airport (HWV), Shirley, New York. The private pilot was not injured. The personal flight was conducted under the provisions of 14 Code of Federal Regulations Part 91. Visual meteorological conditions prevailed and no flight plan was filed for the local flight.

The pilot reported that he was performing touch-and-go landings to runway 24 at HWV. About 700 feet above ground level, the airplane encountered a downdraft and the engine lost all power. The pilot was unable to restart the engine and realized that the airplane would not glide all the way to the runway. He elected to land in the tops of trees approximately .3 mile from the runway threshold. The airplane subsequently contacted the tree tops and descended left wing low to the ground.

Examination of the wreckage by a Federal Aviation Administration (FAA) inspector revealed substantial damage to the wings and fuselage. The airplane was equipped with a Rotax 912 S, 100-horsepower engine. Subsequent examination and successful test-runs of the engine by the pilot and FAA inspectors did not reveal any preimpact mechanical malfunctions. The engine operated continuously at multiple power settings, including full power.

The engine's choke control was located in the vicinity of the throttle lever. During one of the test-runs, the pilot and FAA inspectors noted that when the choke control was moved approximately halfway (1 inch), the engine lost all power. The pilot and inspectors believed that during the downdraft/turbulence encounter, the pilot's hand on the throttle accidentally bumped the choke control, which resulted in a total loss of engine power.

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Accident Rpt# GAA17CA465	08/04/2017 800 EDT	Regis# N777NG	Salisbury, NC	Apt: Rowan County KRUQ
Acft Mk/Mdl CZECH AIRCRAFT WORKS SPOL SRO	Acft SN 07SC059	Acft Dmg: SUBSTANTIAL	Rpt Status: Factual Prob Caus: Pending	
Eng Mk/Mdl ROTAX ROTAX 912S (4	Acft TT 2593	Fatal 0 Ser Inj 0	Flt Conducted Under: FAR 091	
Opr Name: NMG AVIATION LLC	Opr dba:	Aircraft Fire: NONE		AW Cert: LTSP

Events

1. Landing-flare/touchdown - Hard landing

Narrative

The student pilot reported that he had departed with the intent to perform touch-and-go takeoffs and landings.

After takeoff, he realized that the canopy was not latched. He struggled to maintain airplane control in the pattern, but he was able to land normally.

The student pilot then checked the latch handle and he believed that he had secured the canopy correctly. He took off and flew one pattern but just prior to landing, the canopy opened and obstructed the pilot's view of the runway.

The airplane landed hard and bounced, and the pilot aborted the landing.

The student pilot flew a third pattern and made an approach over the runway centerline, "slightly above stall airspeed." The airplane landed hard on the runway and the right main landing gear and the nose landing gear separated from the airplane. The airplane skidded to a stop on the runway.

The airplane sustained substantial damage to the right main landing gear attachment points and the right-wing spar.

The student pilot asserted that the canopy latch was down during the takeoffs, but was not seated correctly. For the latch to seat correctly, "the canopy itself needed to be pushed up so that gravity seated the canopy."

The airplane was equipped with a full-width clear canopy, hinged in the front, and tipped forward for entry to the cockpit.

The manually operated canopy was closed by the pilot reaching above their head and grabbing the handle identified by the manufacturer's illustrated parts catalogue as SF0730N. Per the photographs provided by Federal Aviation Administration (FAA) Aviation Safety Inspectors, the handle was not installed on the canopy.

The canopy security latches consisted of two metal, claw-type, latches that were mechanically moved forward to secure the canopy to the fuselage. The canopy latches are moved forward to the secure position when the pilot lowers the canopy "T" handle.

The "T" handle is affixed to the baggage compartment front wall in the cockpit, between the left and right seats just above the arm rest and just below the pilot headset audio input jacks.

The student pilot's head set control unit was about 4 inches long by 1 inch in diameter. Photographs taken shortly after the accident and provided by FAA Inspectors revealed that control unit was lodged underneath the "T" handle.

The student pilot reported that there were no preaccident mechanical malfunctions or failures with the airplane that would have precluded normal operation.

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Accident Rpt# ERA18FA064	01/22/2018 1214 EST	Regis# N262WS	Bonita Springs, FL	Apt: N/a
Acft Mk/Mdl VANS AIRCRAFT INC RV-12-NO SERIES	Acft SN 120262	Acft Dmg: DESTROYED	Rpt Status: Prelim	Prob Caus: Pending
Eng Mk/Mdl ROTAX 912 ULS	Acft TT 95	Fatal 1 Ser Inj 0	Flt Conducted Under: FAR 091	
Opr Name: DANIEL BERNATH	Opr dba:	Aircraft Fire: NONE		AW Cert: LTSP

Events

1. Enroute - Loss of control in flight

Narrative

On January 22, 2018, about 1214 eastern standard time, a Van's Aircraft Inc. RV-12, N262WS, was destroyed when it collided with terrain near Bonita Springs, Florida. The sport pilot was fatally injured. The special light sport airplane was registered to a corporation and was operated by the pilot under the provisions of Title 14 Code of Federal Regulations part 91. Day, visual meteorological conditions prevailed, and no flight plan was filed for the personal flight. The flight originated at Page Field (FMY), Fort Myers, Florida about 1200 and was destined for Everglades Airpark (X01), Everglades City, Florida.

According to preliminary air traffic control (ATC) voice communication and radar data obtained from the Federal Aviation Administration (FAA), the flight was en route from FMY to X01. The pilot was receiving flight following services from ATC. While on a southeasterly heading and at 2,500 ft mean sea level, the pilot was advised of traffic in his vicinity. The pilot acknowledged, and shortly after this transmission he stated, "mayday, mayday." No additional calls were received from the pilot and radar and radio contact were lost.

The airplane crashed in a forested area, about 18 nautical miles southeast of FMY. There was no fire. The wreckage path was oriented south-southwest and was about 750 ft in length. All components of the airplane were accounted for at the accident site. Flight control continuity was confirmed from all flight control surfaces to the cockpit controls.

The pilot held a sport pilot certificate with an airplane single engine land rating. According to the FAA, he did not possess an FAA medical certificate, nor was one required to operate as a sport pilot.

The low-wing, single-engine, two-seat airplane incorporated a fixed, tricycle landing gear. The airplane was equipped with a Rotax 912-ULS 100-horsepower reciprocating engine. The engine was fitted with a Sensenich fixed-pitch composite propeller. The airplane was built in 2011. According to the airplane maintenance records, a condition inspection was completed on July 24, 2016, at 95 hours total time.

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Accident Rpt# WPR18LA009 10/15/2017 1000 Regis# N181TJ Skull Valley, UT Apt: N/a
Acft Mk/Mdl BARBER WARREN D TURBINE CUBS P A Acft SN TC0705014 Acft Dmg: SUBSTANTIAL Rpt Status: Factual Prob Caus: Pending
Eng Mk/Mdl LYCOMING O-360 Acft TT 380 Fatal 0 Ser Inj 0 Flt Conducted Under: FAR 091
Opr Name: DECKER TROY S Opr dba: Aircraft Fire: NONE
AW Cert: SPE

Summary

The private pilot reported that he had just completed a low-altitude pass to observe an object on the ground and that, as he applied power to initiate a climb, the engine "stumbled slightly and seemed to hesitate." The pilot applied carburetor heat after noting the outside air temperature because he thought that carburetor ice might have accumulated. The pilot then applied full power, and the engine again seemed to hesitate, so he decided to initiate a precautionary landing to an open salt flat area. Shortly after touchdown, the airplane nosed over. The pilot reported that he used cabin heat during the entire flight. The left and right brake master cylinders remained secured to their respective mounts. When actuated by hand, the right brake pedal needed minimal input to actuate the brake; however, the left brake pedal needed a significant amount of movement to actuate the brake. Both the left and right main landing gear wheels moved unrestrictedly. During postaccident examination of the recovered wreckage, heat was applied to the right brake master cylinder for about 25 minutes, and the brake engaged, restricting movement of the wheel. The application of heat to the left brake master cylinder resulted in no change. The brake fluid reservoir contained residual hydraulic fluid, most of which likely drained through the vent hole in the cap after the accident sequence. It is likely that the pilot's use of cabin heat throughout the flight resulted in the master cylinders and hydraulic fluid reservoir heating to the point that it allowed the hydraulic fluid to expand and subsequently actuate the brakes and led to the airplane nosing over during the landing. It is possible that the hydraulic reservoir had too much fluid in it before impact, which could have led to such an outcome, but given the fluid leaked out postaccident, this could not be determined with certainty. Postaccident examination of the engine revealed that one of the two carburetor temperature probe wires was separated from an electrical connector, consistent with a bad crimp. The disconnected wire likely prevented the carburetor air temperature from being displayed on the airplane's avionics panel. However, this would not have affected the outcome of the accident. The atmospheric conditions in the area at the time of the accident were conducive to the formation of carburetor ice at glide and cruise power. It is likely that the hesitation in the engine performance reported by the pilot was the initial stages of carburetor ice formation, which precipitated the off-airport precautionary landing.

Cause Narrative

THE NATIONAL TRANSPORTATION SAFETY BOARD DETERMINED THAT THE CAUSE OF THIS OCCURRENCE WAS: The uncommanded activation of the brakes due to the expansion of the hydraulic fluid within the hydraulic reservoir and master cylinders, which resulted from heat produced by using the cabin heat throughout the flight and resulted in the airplane nosing over during an off-airport precautionary landing.

Events

1. Enroute-change of cruise level - Loss of engine power (partial)
2. Enroute-change of cruise level - Off-field or emergency landing
3. Landing-landing roll - Nose over/nose down

Findings - Cause/Factor

1. Aircraft-Aircraft systems-Landing gear system-Master cylinder/brake valve-Malfunction - C
2. Aircraft-Aircraft power plant-Engine (reciprocating)-Recip eng wiring-Incorrect service/maintenance
3. Aircraft-Aircraft power plant-Engine (reciprocating)-Recip eng wiring-Inadequate inspection

Narrative

On October 15, 2017, about 1000 mountain daylight time, an experimental amateur built tailwheel equipped Barber Turbine Cubs PA-18, N181TJ, nosed over during a precautionary landing near Skull Valley, Utah. The private pilot and passenger were not injured. The airplane sustained substantial damage to both wings and empennage. The airplane was registered to and operated by the pilot under the provisions of 14 Code of Federal Regulations Part 91 as a personal flight. Visual meteorological conditions prevailed and no flight plan was filed for the local flight which originated from West Jordan, Utah, about 0915.

In a written statement to the National Transportation Safety Board (NTSB) investigator-in-charge (IIC), the pilot reported that after a thorough pre-flight inspection, including checking for water in the fuel system, he conducted a local daytime flight. The pilot stated that he had just completed a low altitude pass at an altitude of about 250 to 300 feet above ground level to observe an object on the ground and was applying power to initiate a climb. During the application of power, the engine stumbled slightly and seemed to hesitate. The pilot applied carburetor heat after observing the outside air temperature to be 41°F and thinking maybe carburetor ice. The pilot further stated that he applied full power and the engine again seemed to hesitate, and decided to initiate a precautionary landing to an open salt flat area.

The pilot further reported that he conducted a tail wheel landing and as the airplane touched down, as weight was transferred to the wheels, the tail raised

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and the airplane nosed over. Following the accident, the pilot noted that both main wheel brakes were engaged when he attempted to rotate both the left and right main wheels. He added that neither himself or his passenger applied pressure to the heel brakes during the landing sequence.

During a telephone conversation with the pilot, he reported that he was using cabin heat during the entire flight due to the outside air temperature.

Review of a video provided by the pilot's mechanic, revealed that following the accident, the right main wheel was difficult to rotate.

Examination of the recovered wreckage revealed that both wings were removed to facilitate transport of the wreckage. The airplane was equipped with a Dynon FlightDEK-D180, which has an option to provide carburetor air temperature. Power was applied to the airframe, and the FlightDEK-D-180 functioned normally.

The cabin heat vent, located at the base of the firewall, aligned in the middle of the airframe, was free of restrictions, and the cabin heat lever actuated normally. The left and right brake master cylinders remained secured to their respective mounts. When actuated by hand, the right brake pedal needed minimal input to actuate the brake, however, the left brake pedal needed a significant amount of movement to actuate the brake. Both the left and right main landing gear wheels moved unrestrictedly. The brake reservoir cap was removed and a minimal amount of hydraulic fluid was observed. The vented cap was free of debris and restrictions. A heat gun was utilized to heat both the left and right master cylinders. After about 25 minutes of the application of heat to the right master cylinder, it was noted that the brake engaged, resulting in restricted movement of the right main wheel by hand. The application of heat to the left master cylinder resulted in no change.

The engine remained secure to its mount. All engine accessories remained attached to their respective mounts. All fuel lines remained attached. Throttle, mixture, and carburetor heat control continuity was established from the cockpit controls to the engine. The wooden propeller assembly remained attached to the crankshaft however, one of the propeller blades was separated at the propeller hub.

One of the two magnetos were equipped with an impulse coupling. When the engine crankshaft was rotated, spark was produced on the impulse coupling equipped magneto leads. The opposing magneto was not removed or examined.

The bottom four spark plugs were removed and examined. All four spark plugs exhibited gray deposits within the electrode area and exhibited normal operational signatures. The ignition harness was intact and undamaged.

The carburetor was equipped with a carburetor temperature probe. It was noted that one of the two wires was separated from the crimped side of an electrical connector. The wire exhibited missing shielding at the end and no wire was observed within the electrical connector. The carburetor was removed and examined. The throttle and mixture levers moved from stop to stop by hand freely. The accelerator pump functioned normally when the throttle lever was actuated. The carburetor was disassembled and the internal floats were intact and moved freely. The needle valve and seat were intact.

The induction system was intact and free of debris with the exception of dirt wedged within the air filter. The exhaust system was intact and undamaged. The scat tubing for cabin heat remained attached and undamaged.

No evidence of any preexisting mechanical malfunction that would have precluded normal operation of the engine was found.

The Federal Aviation Administration (FAA) published Special Airworthiness Information Bulletin (SAIB) CE-09-35 on June 30, 2009, regarding carburetor ice prevention. The conditions encountered in this accident (ambient temperature 41o F, dew point 23o F) were in the area of icing at glide and cruise power.

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Accident Rpt# CEN16LA015	10/17/2015 1200 CDT	Regis# N3232Z	Wallisville, TX	Apt: Chambers County T00
Acft Mk/Mdl BOBBY MARTIN AUTOGYRO MTO SPORT	Acft SN M01054	Acft Dmg: SUBSTANTIAL	Rpt Status: Factual	Prob Caus: Pending
Eng Mk/Mdl ROTAX 914 UL	Acft TT 132	Fatal 0	Ser Inj 0	Flt Conducted Under: FAR 091
Opr Name: BOBBY R MARTIN	Opr dba:			Aircraft Fire: NONE

Events

1. Maneuvering-low-alt flying - Sys/Comp malf/fail (non-power)
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Narrative

On October 17, 2015, about 1200 central daylight time, a Bobby Martin, AutoGyro MTO Sport gyroplane, N3232Z, impacted terrain in a remote swampy area near Wallisville, Texas. The pilot was not injured, and the gyroplane was substantially damaged. The gyroplane was registered to and operated by a private individual, as a 14 Code of Federal Regulations Part 91 personal flight. Day visual meteorological conditions (VMC) prevailed and a flight plan had not been filed. The gyroplane had departed Chambers County Airport (T00) Anhuac, Texas, about 1130 for a local flight.

The pilot took off to go sightseeing for about 30 to 45 minutes to look at the wetlands. He reported being about 250 to 300 ft. above the ground in straight and level flight when he heard and felt something break loose behind him, near where the engine is located. The gyroplane then developed a severe vibration. The pilot reduced power which reduced the vibration but resulted in the gyroplane descending. He added power again, but the gyroplane vibrated severely and wasn't regaining performance. Seeing that he would not make it back to a suitable landing location, the pilot selected a clear area in the swamp beneath him to land. During the forced landing, the gyroplane's right main landing gear sank into the swamp and the gyroplane rolled over onto its right side causing substantial damage to the main rotor blades and rotor mast.

A postaccident examination of the pusher propeller showed that one of the three carbon fiber blades had split and come apart. Further examination of the propeller blade showed one half of the blade missing for 3/4 of the outboard length, about 1.5 in. missing from the blade tip of the half that remained, two deep cuts in the leading edge, and a fracture at the blade root near the hub. The damage was consistent with an impact to the blade, however, no object that could have caused such damage was located.

Per the aircraft manufacturer, the propeller blade was constructed as two separate halves, bonded together prior to curing, with a foam filled core that bonded to the resin. The manufacturer was aware of two similar cases where a blade split open. Both involved where seat cushions came out of the aircraft and struck the propeller.

No other preaccident anomalies with the gyroplane were found.

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Accident Rpt# CEN17LA180 05/11/2017 1945 CDT Regis# N1041N Orangeville, IL Apt: N/a
Acft Mk/Mdl BROKAW BERGON F ZODIAC-HD Acft SN 6-3013-HDS Acft Dmg: SUBSTANTIAL Rpt Status: Factual Prob Caus: Pending
Eng Mk/Mdl BOMBARDIER ROTAX 912 Acft TT 197 Fatal 0 Ser Inj 1 Flt Conducted Under: FAR 091
Opr Name: BAKER MARK A Opr dba: Aircraft Fire: NONE
AW Cert: SPE

Summary

The pilot returned to a private airstrip after a 35-minute flight and planned to perform a touch-and-go takeoff. However, after takeoff and while climbing, the engine started to run rough and then lost power. The pilot selected a field for the forced landing, during which the airplane impacted terrain hard and then came to rest upright.

An examination of the airplane revealed that the right fuel tank appeared empty, that fuel was visible in the left tank, and that only residual fuel remained in the header tank, which was breached during the accident. A fuel pump circuit breaker was found open, and the fuel selector was found in the "off" position. The examination of the engine revealed that the engine's three-bladed propeller did not exhibit rotational signatures, indicating that the engine was not running at impact. The spark plugs were removed and appeared normal. The engine was then rotated by hand, and thumb compression and continuity through the drive/valve train were established. Both carburetor float bowls were removed and were empty of fuel; no contaminants or obstructions were noted. The gascolator was removed, and only a small amount of fuel was found; the fuel pump was removed, and only minimal fuel was found.

An engine test run was then conducted at power, and the engine ran for several minutes; no anomalies were noted. The fuel source was removed to see how long the engine would run on the residual fuel in the system. Within several minutes, the engine began running rough and then lost power. A post-run examination of the carburetor float bowls, fuel pump, and gascolator revealed an absence of fuel in each, similar to their condition before the engine test run. The accident is consistent with fuel starvation, likely due to the fuel not transferring from a wing fuel tank to the header tank, either due to an open fuel pump circuit or because the right wing fuel tank was empty.

Cause Narrative

THE NATIONAL TRANSPORTATION SAFETY BOARD DETERMINED THAT THE CAUSE OF THIS OCCURRENCE WAS: The total loss of engine power due to fuel starvation.

Events

1. Initial climb - Fuel starvation
2. Initial climb - Loss of engine power (total)
3. Landing - Collision with terr/obj (non-CFIT)

Findings - Cause/Factor

1. Aircraft-Fluids/misc hardware-Fluids-Fuel-Fluid level - C
2. Aircraft-Aircraft systems-Fuel system-Fuel distribution-Not specified

Narrative

On May 11, 2017, about 1945 central daylight time, a Brokaw Bergon Zodiac airplane, N1041N conducted a forced landing near Orangeville, Illinois. The pilot received serious injuries and the airplane was substantially damaged during the accident. The airplane was registered to and operated by a private individual under the provisions of the 14 Code of Federal Regulations Part 91 as a personal flight. Visual meteorological conditions prevailed at the time.

The pilot reported that he had flown for 35 minutes and planned to do another takeoff and landing at his private airstrip. Just after the takeoff and while he was in the climb, the engine started to run rough and then lost power. The pilot selected a hay field for the forced landing; however, the airplane impacted terrain hard and came then to rest up-right.

The responding Federal Aviation Administration (FAA) inspector noted substantial damage to the airplane's fuselage and wings. The right wing fuel tank appeared empty, fuel was visible in the left wing fuel tank, and only residual fuel remained in the header tank, which appeared to have been breached during the impact. A fuel pump circuit breaker was also open, and the fuel selector was in the off position.

The airplane was recovered to the pilot's hangar, and an examination was conducted by an FAA inspector and a technical representative from the engine manufacturer on May 20, 2017. The engine's three bladed propeller (with one broken blade) was absent rotational signatures; the sparkplugs were removed and appeared normal. The engine was then rotated by hand and a thumb compression and continuity check through the drive/valve train was established. Both carburetor float bowls were removed and were empty of fuel; no contaminants or obstructions were noted. The gascolator was removed and only a small amount of fuel was found.

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The fuel line to the gascolator was then placed in a container of automobile fuel. The engine was then started and run to power for several minutes; no abnormalities were noted. With the fuel source removed, the engine ran rough, then lost power. A post run examination of the carburetor float bowls, fuel pump, and gascolator found levels of fuel similar to that found prior to the engine run.

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Accident Rpt# ERA16FA097 01/30/2016 1445 EST Regis# N401PT Albany, GA Apt: Southwest Georgia Rgnl ABY
Acf Mk/Mdl BROOK AARON D LANCAIR IV P-NO SERI Acft SN LIV-408 Acft Dmg: DESTROYED Rpt Status: Factual Prob Caus: Pending
Eng Mk/Mdl WALTER/GE M601-D Acft TT 1069 Fatal 3 Ser Inj 0 Flt Conducted Under: FAR 091
Opr Name: ART SIGN COMPANY Opr dba: Aircraft Fire: GRD

Summary

The two pilots and a passenger were departing in the turbine engine-equipped, experimental, amateur-built airplane for a local personal flight. The airplane fuel tanks had been topped off before the flight. Video imagery indicated that the airplane rotated for takeoff about 1,200 ft from the start of the runway. After rotation, the airplane banked sharply to the right and climbed to the height of the treetops. The bank angle increased to about 90° where it remained as the airplane descended to ground impact; a postcrash fire ensued. Examination of the wreckage did not reveal evidence of any preimpact mechanical malfunctions.

The commercial pilot seated in the left seat had recently purchased the airplane, and, based on data recovered from a portable GPS unit onboard the airplane, the airplane had been flown at least 36 hours since the purchase. The second pilot, who was seated in the right seat, held airline transport pilot and flight instructor certificates. The second pilot was assisting the owner in becoming more familiar and proficient in the airplane; however, although he had received 9 hours of dual instruction in the airplane, none of it was given with him seated in the right seat. The pilot/owner and the second pilot had estimated flight times in the airplane of 27 and 36 hours, respectively. The investigation could not determine which of the pilots was flying the airplane at the time of the accident.

In addition to the two pilots, the airplane was loaded with full fuel and a passenger in the rear seat, and calculations indicated that the airplane was about 470 pounds over its maximum gross takeoff weight and 0.5 inch beyond its most aft center of gravity limit. This was likely the only flight the pilots had conducted with the airplane loaded in this manner. Following a takeoff about 2 weeks before the accident, during which the airplane had full fuel but no rear seat passenger, the second pilot reported to the flight instructor from whom he received his training in the airplane that they had almost crashed on takeoff. The instructor cautioned the second pilot that, with full fuel, the rotation must be gradual and should not occur at too low an airspeed. Further, the instructor stated that, during the second pilot's training, he had told him that, if the airplane's auxiliary fuel tanks were full, the airplane should have no more than two occupants.

Although the rotation speed during the accident takeoff could not be determined, the video imagery showed that the airplane lifted off after a ground roll similar to that on previous takeoffs from the same airport that were recorded by the portable GPS unit. Therefore, it is likely that the airplane rotated about the same speed on the accident flight as it had during the previous takeoffs conducted by the pilots. However, because the airplane was likely operating at a higher gross weight and aft center of gravity than previous flights, during the accident takeoff, the pilots should have used a higher rotation speed. Because of the lower rotation speed, the airplane was likely more difficult and possibly impossible to control upon liftoff.

Cause Narrative

THE NATIONAL TRANSPORTATION SAFETY BOARD DETERMINED THAT THE CAUSE OF THIS OCCURRENCE WAS: The pilots' failure to maintain control during a takeoff attempt in a high-performance airplane. Contributing to the accident were the pilots' decision to operate the airplane above its maximum gross weight and with an aft center of gravity and their lack of experience in the make and model airplane.

Events

1. Initial climb - Abrupt maneuver
2. Initial climb - Loss of control in flight
3. Uncontrolled descent - Collision with terr/obj (non-CFIT)

Findings - Cause/Factor

1. Personnel issues-Task performance-Use of equip/info-Aircraft control-Pilot - C
2. Aircraft-Aircraft oper/perf/capability-Performance/control parameters-Lateral/bank control-Not attained/maintained - C
3. Personnel issues-Action/decision-Info processing/decision-Decision making/judgment-Pilot - F
4. Personnel issues-Action/decision-Info processing/decision-Decision making/judgment-Copilot - F
5. Aircraft-Aircraft oper/perf/capability-Aircraft capability-Maximum weight-Capability exceeded - F
6. Aircraft-Aircraft oper/perf/capability-Aircraft capability-CG/weight distribution-Capability exceeded - F
7. Personnel issues-Experience/knowledge-Experience/qualifications-Total experience w/ equipment-Pilot - F
8. Personnel issues-Experience/knowledge-Experience/qualifications-Total experience w/ equipment-Copilot - F

Narrative

HISTORY OF FLIGHT

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On January 30, 2016, at 1445 eastern standard time, an experimental amateur-built Lancair IV-P, N401PT, was destroyed when it impacted terrain shortly after takeoff from the Southwest Georgia Regional Airport (ABY), Albany, Georgia. The two pilots, a commercial pilot and an airline transport pilot, and the passenger were fatally injured. The airplane was registered to and operated by the commercial pilot. Visual meteorological conditions prevailed, and no flight plan was filed for the local personal flight, which was conducted under the provisions of Title 14 Code of Federal Regulations Part 91.

Video recordings from an airport security system captured a portion of the flight. A review of those recordings revealed that the airplane rotated for takeoff about 1,200 ft from the beginning of runway 22. After rotation, the airplane banked sharply to the right and climbed to the height of the treetops. The bank angle increased to about 90° where it remained as the airplane descended to the ground.

A witness located about 1/4 mile north of the accident site reported that the airplane sounded "normal" until shortly before impact, when the engine noise became louder.

PERSONNEL INFORMATION

A witness reported that as the occupants embarked, the commercial pilot (owner/pilot) was seated in the left front seat, and the airline transport pilot (second pilot) was seated in the right front seat. The investigation could not determine which pilot was at the controls at the time of the accident or which pilot served as pilot in command. Neither of the pilots' logbooks was available for examination during the investigation.

According to Federal Aviation Administration (FAA) records, the owner/pilot held a commercial pilot certificate with ratings for airplane single-engine land and instrument airplane. He reported 1,000 hours of flight experience at the time of his most recent FAA third-class medical examination, which was performed on January 20, 2015.

The second pilot held an airline transport pilot certificate with ratings for airplane multiengine land and rotorcraft helicopter. He held a commercial pilot certificate with a rating for airplane single-engine land. He also held a flight instructor certificate with ratings for airplane single- and multiengine, rotorcraft helicopter, instrument airplane, and instrument helicopter. He reported 6,750 hours of flight experience at the time of his most recent FAA second-class medical examination, which was performed on July 8, 2015.

Interviews with several of the owner's acquaintances revealed that his flight experience in the Lancair IV-P make and model was exclusively in the accident airplane, which he had purchased about 2 months before the accident. According to one acquaintance, the owner/pilot arranged for the second pilot to receive Lancair specific training at Deland Municipal Airport (DED), Deland, Florida, where the airplane was stored temporarily after its purchase. The plan was for the second pilot to subsequently provide training to the owner/pilot. The acquaintance did not know how many flight hours the owner had accrued in the airplane; however, he said that, as of January 12, 2016, the owner had not met the insurance policy requirements for solo flight.

According to a representative of the owner/pilot's insurance company, the policy did not require a specific number of flight hours, but it required that the owner complete ground and flight training in the Lancair IV-P make and model and have that training endorsed in his logbook before solo flight.

According to the flight instructor at DED who provided flight training to the second pilot, on December 21, 2015, both pilots attended a one-day ground school training session on engine and propeller operations. During the week of January 6, 2016, the second pilot received 9 hours of flight training at DED from the instructor, who was endorsed by the Lancair Owners and Builders Organization (LOBO). The training was conducted in the accident airplane, and the second pilot flew all 9 hours from the left seat. He had not flown the Lancair IV-P before that training. The instructor stated that one flight was conducted "at max rear [center of gravity] CG" with full main fuel tanks and the pilot/owner in the rear seat. He also stated that he discussed with the second pilot that, if the airplane's belly and rear tanks were full, the airplane should be treated "as a two seater aircraft and no weight in the luggage compartment."

An employee from the Eagles of America fixed base operator at ABY observed several previous flights of the accident airplane. On two occasions, he observed the owner fly the airplane alone, and on one occasion he observed the owner flying with the second pilot in the right seat and the passenger in the rear seat.

AIRCRAFT INFORMATION

The turbo-propeller-powered airplane was built in 2002. It was powered by a 724-horsepower Walter M601-D engine driving a 3-blade propeller. It was equipped with retractable tricycle-style landing gear. It was not equipped with a gust lock feature. A review of maintenance logbooks revealed that the most recent

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condition inspections of the airframe and engine occurred on October 29, 2015, and both were found to be in satisfactory condition. The pilot purchased the airplane on December 10, 2015.

According to a mechanic, maintenance was performed on the airplane during the week of January 25, 2016. The starter generator was replaced, and a nose gear door was repaired. These tasks were not documented in the airplane logbooks.

A review of fuel records indicated that the airplane had been fueled nine times at the ABY airport between January 10 and January 30, 2016. The airplane was fueled with 64 gallons of fuel just before the accident flight, with an order to top off all tanks. The fuel capacity was 60 gallons in each wing tank and a combined total of 38 gallons in the two auxiliary tanks, one located in the baggage area and one in the belly of the airplane.

Two weight and balance specification sheets were found in a binder recovered from the airplane's baggage compartment. One sheet, dated May 2005, indicated that the maximum allowable gross weight was 3,800 pounds and that the allowable center of gravity (CG) moment range was between 108.37 and 116.3 inches. The sheet did not contain any reference to the two auxiliary fuel tanks, which, according to the airplane maintenance records, were installed in October 2011. In addition, it indicated an empty weight and moment arm of 2,566 pounds and 111.6 inches, respectively. The second weight and balance sheet was undated and included a reference to an auxiliary tank in the baggage area, using 20 gallons of fuel in that tank as an example calculation. The second sheet did not reference the belly fuel tank, and it did not indicate any values for maximum gross weight or CG limits. It indicated a "new" empty weight and moment arm of 2,576 pounds and 111.97 inches, respectively.

Using occupant weights obtained from medical and/or motor vehicle records, and full main and auxiliary fuel tanks, the weight and balance at the time of the accident was estimated to be 4,270 pounds at a CG moment arm of 116.8 inches. According to the limits shown on the May 2005 sheet, the airplane was about 470 pounds above its maximum gross takeoff weight and 0.5 inch beyond its most aft CG limit.

METEOROLOGICAL INFORMATION

The 1451 recorded weather observation at ABY included wind from 210° at 9 knots, skies clear, visibility 10 statute miles, temperature 21°C, dew point 3°C, and an altimeter setting of 30.13 inches of mercury.

WRECKAGE AND IMPACT INFORMATION

The airplane impacted a grass field about 1,900 ft from the beginning of the runway and 280 ft to the right of the runway centerline. The wreckage path extended from the initial impact ground scar along a heading of 270° and was 170 ft long. A position light with green lens fragments and the right winglet were among the debris found closest to the initial impact scar. Both wings were separated from the fuselage at their roots and fragmented with pieces distributed along the wreckage path. The left-wing tip and winglet were found about 130 ft along the wreckage path. The main wreckage area included the empennage, which was largely intact and displayed severe fire and impact damage forward of the rear seats. The right horizontal stabilizer and elevator were fractured about mid-span with the outboard portion displaced forward. The trailing edge of the elevator trim tab was found deflected about 1/2 inch downward. The trailing edge of the rudder trim tab was found deflected about 1/4 inch to the right. The engine mounting structural tubes were fractured, and the engine was found inverted. The propeller hub separated from the engine flange, and one of the three blades separated from the hub. All three blades exhibited some bending in the aft direction from about mid-span outward, and each showed some amount of twisting deformation.

The engine power turbine blades were intact and exhibited slight bending at their tips and rub marks at their roots. The engine casing was displaced and twisted, and the engine could not be turned by hand at the starter or the propeller shafts. After removal of the planetary gear system, the propeller shaft turned easily and did not exhibit any evidence of twisting.

Examination of the airframe revealed that the main landing gear were retracted. The position of the nose landing gear could not be determined. The position of the flaps could not be determined. The elevator moved freely, and pitch control continuity was confirmed from the elevator through the push-pull tubes to the aft cabin area. Rudder control continuity was confirmed from the rudder through a push-pull tube to the cable and bell crank assembly in the empennage. The rudder was free to move, and both cables exhibited binding as a result of fire damage. Both ailerons had separated from their respective wings and were found fractured and fire damaged. Both cockpit control sticks remained connected to their control tubes. Continuity from those tubes to the remainder of the control components could not be confirmed due to impact and fire damage.

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MEDICAL AND PATHOLOGICAL INFORMATION

The Division of Forensic Sciences, Georgia Bureau of Investigation, State of Georgia, conducted autopsies on both pilots. The cause of death was determined to be "multiple blunt force trauma" in both cases.

The FAA Bioaeronautical Sciences Research Laboratory, Oklahoma City, Oklahoma, conducted toxicological testing of specimens from both pilots. The results for the pilot/owner were negative for carbon monoxide, ethanol, and drugs of abuse. Acetaminophen, a common over the counter analgesic/antipyretic (Tylenol), was detected in the urine. This medication does not pose a hazard to flight safety. The results for the second pilot were negative for carbon monoxide, ethanol, drugs of abuse and medications.

TEST AND RESEARCH

A portable GPS receiver was recovered from the accident site and forwarded to the NTSB Vehicle Recorder Laboratory for examination. The unit captured about 36 hours of flight data from January 6 through January 30, 2017, including the taxi portion of the accident flight. A review of the recorded GPS data from previous takeoffs during January 2016 revealed that when departing ABY, the airplane typically lifted off the runway about 1,000 to 1,500 ft from the start of the runway. During the week of January 6, when the second pilot was receiving instruction at DED, the airplane typically lifted off about 1,500 to 1,900 ft from the start of the runway.

ADDITIONAL INFORMATION

According to the flight instructor who provided the second pilot with his Lancair training at DED, about 2 weeks before the accident, the second pilot contacted him and explained that, during one recent takeoff with the auxiliary fuel tanks full, after rotating for takeoff at 80 knots, he and the pilot/owner lost control and nearly crashed the airplane. The flight instructor advised the second pilot that with the airplane fully fueled, it was important that the rotation technique be "real easy," that rotation should not occur at too low of an airspeed, and that the pilot should be "ready with rudder control." The second pilot also reported that, during the same takeoff, one of the nose gear doors was damaged during the gear retraction. The flight instructor opined that the damage was caused by uncoordinated or side-slipped flight, resulting in the relative wind blowing the gear door to a partially closed position and impinging on the landing gear, as it retracted. (During a conversation with an acquaintance, the owner provided a different explanation for the nose gear damage stating that he believed the damage was because he did not neutralize the rudder before retracting the landing gear.)

The flight instructor, who was a turbo-propeller powered Lancair IV-P owner, offered the following additional information:

For takeoff, he normally would rotate about 85 or 90 knots and then transition promptly to a high pitch attitude to avoid exceeding the landing gear operating speed limitation of 120 knots. He added that, at slower airspeeds or higher density altitudes, care should be taken not to raise the landing gear too soon as the landing gear doors may cause an undesired yawing moment. He said this effect was more pronounced in ground effect.

According to the Pilot's Operating Handbook, the design rotation speed for a 3,900-pound maximum gross weight airplane is 80 knots.

According to the FAA Pilot's Handbook of Aeronautical Knowledge, Chapter 10, Weight and Balance, center of gravity locations aft of the allowable range may cause "extreme control difficulty."

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Accident Rpt# ERA16FA089 01/14/2016 1405 EST Regis# N82652 Wake, VA Apt: Hummel Field W75
Acraft Mk/Mdl CAUGHRAN TERRY FLIGHTSTAR II-NO Acft SN 083 Acft Dmg: SUBSTANTIAL Rpt Status: Factual Prob Caus: Pending
Eng Mk/Mdl ROTAX 582 Acft TT 311 Fatal 1 Ser Inj 0 Flt Conducted Under: FAR 091
Opr Name: GREGORY G DENNIS Opr dba: Aircraft Fire: NONE

Events

1. Maneuvering - Loss of control in flight
2. Enroute-climb to cruise - Aircraft structural failure

Narrative

HISTORY OF FLIGHT

On January 14, 2016, about 1405 eastern standard time, an experimental amateur-built Flightstar II, N82652, experienced an in-flight wing separation and impacted wooded terrain near Wake, Virginia. The sport pilot was fatally injured, and the airplane was substantially damaged. The personal flight was operated by the pilot under the provisions of Title 14 Code of Federal Regulations Part 91. Visual meteorological conditions prevailed, and no flight plan was filed for the flight that departed Hummel Field Airport (W75) Saluda, Virginia, about 1355 en route to New Quarter Farm Airport (92VA) Gloucester, Virginia.

According to a witness, he saw the airplane at an altitude of about 1,200 ft above ground level flying south toward Hartfield, Virginia. It appeared to be flying normally. He stated that he suddenly heard "a snap or a cracking sound," and then he saw left wing fold up. Within a second, the airplane went into a vertical counterclockwise spiral heading straight down. Additional witnesses described hearing the airplane engine and then a "loud pop" and seeing the airplane with a broken left wing as it descended vertically.

PERSONNEL INFORMATION

The pilot, age 64, held a sport pilot certificate and a repairman certificate with an inspection rating for the accident airplane. The pilot applied for his sport pilot certificate on October 7, 2010. He had never been issued, nor was he required to have, a Federal Aviation Administration medical certificate.

A review of the pilot's logbooks that were recovered from the scene showed a total flight time of 570.4 hours. According to the pilot's most recent logbook, he had accumulated 93.1 hours of flight time since January 19, 2013, of which 91.2 hours were in the accident airplane. In the 90 days before the accident, the pilot flew 3.8 hours in the accident airplane.

AIRCRAFT INFORMATION

The two-seat, externally-braced high-wing, fixed tricycle-gear airplane had a high-mounted, tractor-configuration Rotax 582 engine and a three-blade composite propeller. The airplane had an enclosed fiberglass cockpit and a conventional three-axis control system with ailerons, rudder, and elevator. It received a special airworthiness certificate on September 18, 1996. The pilot purchased the airplane on July 3, 2004.

According to witnesses, on January 9, 2016, 5 days before the accident flight, the pilot was landing the airplane at W75. A witness, who did not see the landing, reported that the pilot told him he made a good landing, but, when he turned left to get out of the way of incoming traffic, the right wheel "snapped" off the airplane. The airplane stopped quickly, and the right axle dug into the dirt. Another witness stated that he helped move the airplane off the grass runway after the wheel separated. He stated that he observed "rust" on the landing gear, and he reported that the pilot said the "landing was not hard." The witnesses stated that the skid mark was about 3 ft long. During examination and subsequent repair of the landing gear, the pilot and a witness found rust and a crack on the axle where the wheel came off. After welding repairs to the landing gear had been completed, the pilot elected to fly the airplane back to 92VA, the airplane's home base, on the day of the accident.

Review of the airplane's maintenance records revealed that the airplane's most recent condition inspection was completed by the pilot 12 days before the accident on January 2, 2016. At that time, the airframe had accumulated 311.1 total hours of operation. The maintenance records showed that, on November 11, 2012, at 217.2 hours, there was a test flight after a "complete aircraft overhaul" that included the installation of new wings, fuel tanks, propeller, fuel lines, new bolts, and an instrument panel. The airplane had flown about 94 hours between this overhaul and the last condition inspection in the logbook.

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The pilot's logbook contained references to flights in "very gusty" or "gusty" wind conditions on multiple occasions. On December 27, 2015, "very gusty" conditions were noted with winds between 15 and 40 knots experienced during a 1.1-hour flight. The Flightstar II flight manual, stated, "DO NOT TAKE OFF IN WIND THAT EXCEEDS 15 KNOTS. (LESS IF GUSTY)."

About 0730 on the day of the accident, a commercial pilot witness saw the airplane in a hangar at W75. He walked into the hangar and inspected the airplane. He observed the leading edge of the left wing and noticed that, "within 5 feet of the fuselage, the fabric appeared to be shrunken down and appeared to be too tight." He also described this area of the leading edge as being "dented in."

METEOROLOGICAL INFORMATION

At 1307 an automated surface weather observation taken at W75, which was located about 3 nautical miles north of the accident site, reported wind from 240° at 9 knots gusting to 15 knots, clear conditions with visibility of 10 statute miles, temperature and dew point 12°C and -3°C, respectively, and altimeter setting 29.98 inches of mercury.

WRECKAGE AND IMPACT INFORMATION

The accident site was located at an elevation of 61 ft in a heavily wooded area with dense brush and mature trees that were about 75 ft tall. There were broken branches at the top of the trees directly above the accident site. The wreckage site was compact and measured 30 ft by 30 ft. There was no post-crash fire, and the aluminum tube, fabric, and fiberglass airplane was completely deformed.

The propeller remained attached to the engine crankshaft propeller flange. The crankshaft flange appeared to be undamaged, and one blade of the three-blade propeller had separated and was found 20 ft away from the engine. The remaining two blades exhibited rotational damage and were delaminated and splintered.

The engine, which was installed in a tractor configuration on the forward part of the tubular keel beam in front of and above the cockpit, remained attached and was partially buried in the ground. The engine was secured, and one of the propeller blades was removed from the hub; the engine was then rotated manually via the propeller, and no internal restrictions were noted. Compression and suction were observed on both cylinders.

The spark plugs were removed and examined; when compared to the Champion Spark Plug "Check-A-Plug" chart, the spark plugs appeared to be "normal" with light coloration signatures and no excessive soot or discoloration that would indicate abnormal performance. Visual inspection of the valves and inside the cylinders at the exhaust pipes showed that they were clean, lubricated, and exhibited normal combustion signatures with no visible scoring or grooves. All manifolds were seated in place. The carburetors functioned normally, and all lines were secured. The float bowl was free of contamination and contained residual fuel.

An emergency ballistic parachute system was installed on the airplane. The parachute was found partially discharged from the canister. Local police and emergency personnel disabled the unit, which had not been activated by the pilot, to prevent accidental discharge of the rocket during emergency recovery operations.

Flight control continuity was established for the rudder, elevator, and right aileron through tracing of the control cable attach points from the control surfaces through the fuselage to the control sticks. Full control movement could not be achieved due to multiple cuts made by emergency fire personnel, and impact damage to the airplane's tubular construction, but there was some movement in the control surfaces and cables.

Examination of the left wing showed that several internal camber ribs were missing, and the struts were bent. A site survey was conducted, and the perimeter was walked in the direction of flight to look for additional pieces of the wing, but none were discovered. The left wing was reconstructed, and significant differences were noted in the severity of damage when compared to the right wing. The forward spar of the right wing remained intact and relatively straight, and the metal leading edge skin remained attached to the forward spar. The forward spar of the left wing was fractured about 4 feet outboard of the wing root, and it was bent forward about 4 feet outboard of the fracture location. There was upwards buckling deformation on the outboard portion of the forward spar. Several internal ribs were missing and unaccounted for. The left metal leading edge skin was separated from the forward spar, and the skin was wrinkled in the area corresponding to the location of the bend in the spar. There was no bird strike residue found on the left wing, and there were no obvious signs of foreign debris.

Portions of the left wing, including the leading and trailing edge tubular spars and struts were sent to the NTSB Materials Laboratory for further analysis. Detailed examination of the forward spar fracture showed buckling deformation at the upper aft side of the spar and curving deformation on the forward face consistent with the outboard end of the spar displacing upward and aft relative to the fracture location. Examination of the bend in the spar showed that deformation of the spar was consistent with the outboard end moving forward and up relative to the bend, and two distinct creases were noted within the inside radius of the bend spaced 5 inches apart. For more information, see the Materials Laboratory Factual Report in the public docket for this investigation.

MEDICAL AND PATHOLOGICAL INFORMATION

The Office of the Chief Medical Examiner, Richmond, Virginia, performed an autopsy of the pilot. The cause of death was blunt force trauma to the head, torso, and lower extremities, and the manner of death was accident. The autopsy report noted that the pilot had an enlarged heart with atherosclerotic cardiovascular disease and coronary artery bypass grafts to the right and left heart and a pacemaker with leads extending to the right heart.

The FAA's Bioaeronautical Research Sciences Laboratory, Oklahoma City, Oklahoma, performed toxicology testing on specimens from the pilot. The specimens tested negative for ethanol and major drugs of abuse. Atorvastatin, a cholesterol lowering medication, and sotalol, an antiarrhythmic heart medication, were detected; both drugs are not considered to be impairing medications.

ADDITIONAL INFORMATION

An Adventure Pilot iFly 700 GPS was recovered from the wreckage. The glass was shattered and there was a crack in the case, but an SD card was found that appeared to be in good condition. The SD card was examined and downloaded at the NTSB Regional Field Office. The data extracted included 14 track logs that included the track of the accident flight. The data included longitude and latitude position data, ground speed, true heading, and altitude. The track data recorded for the accident flight consisted of 11 data points, with the first being recorded near W75, at a GPS altitude and groundspeed of 75 ft and 43 kts, respectively. The track continued to the south, maintaining a groundspeed around 45 knots and climbing to a final GPS altitude of 1,017 feet. The accident site was located about 1/4-mile south of the of the final recorded GPS location.

National Transportation Safety Board - Aircraft Accident/Incident Database

Accident Rpt# WPR18LA071B 01/18/2018 1730 MST Regis# UNREG Marana, AZ Apt: N/a
Acft Mk/Mdl DESTINY XLC Acft SN 001082-00 Acft Dmg: SUBSTANTIAL Rpt Status: Prelim Prob Caus: Pending
Fatal 0 Ser Inj 1 Flt Conducted Under: FAR 091
Opr Name: LARRY HINTON Opr dba: Aircraft Fire: NONE

Events

1. Enroute - Midair collision

Narrative

On January 18, 2018, about 1730 mountain standard time, an unregistered experimental Six Chuter Spirit light sport aircraft and an unregistered experimental Destiny light sport aircraft were substantially damaged after a mid-air collision and subsequent impact with the ground in Marana, Arizona. The non-certificated pilot of the Destiny received serious injuries and the non-certificated pilot of the Six Chuter was not injured. The airplane was operated as a personal flight, conducted under the provision of 14 Code of Federal Regulations Part 91. Visual meteorological conditions prevailed and a flight plan was not filed for the local flight, which originated from a dirt runway.

According to the pilot of the Six Chuter aircraft, at the time of the accident he had received a few hours of flight training, but had not received any formal training towards a private pilot certificate. After experiencing a few hours as a passenger in a powered parachute aircraft he was invited to fly the Six Chuter while his Uncle, and owner of both aircraft, flew the Destiny. During the flight, the Six Chuter pilot, pilot A, turned to the east while cruising at approximately 100 ft above ground level. He observed his uncle, pilot B, on a northerly course and decided to maintain his altitude and heading, but his uncle then turned to the west on a direct path towards the Six Chuter. Moments later the Six Chuter collided with the parachute of the Destiny, which bound the Six Chuter's propeller. The Six Chuter spun 180° and drifted aft as the aircraft descended to the ground. The right side cabin of the Destiny impacted the ground after the aircraft entered a nose down attitude and rapid descent without a parachute. Pilot A reported no mechanical malfunctions or anomalies that could have precluded normal operation prior to the loss of power.

Photographs furnished by local law enforcement showed substantial damage to the structural tubing of both aircraft.

The wreckage has been retained for further examination.

National Transportation Safety Board - Aircraft Accident/Incident Database

Accident Rpt# CEN17LA001	10/01/2016 1300 CDT	Regis# N157D	Jennings, LA	Apt: Jennings 3R7
Acft Mk/Mdl DRAKE KITFOX SPEEDSTER		Acft SN SGD007	Acft Dmg: SUBSTANTIAL	Rpt Status: Factual Prob Caus: Pending
Eng Mk/Mdl ROTAX 912UL		Acft TT 734	Fatal 0 Ser Inj 1	Flt Conducted Under: FAR 091
Opr Name: GAINES DAVID JR		Opr dba:		Aircraft Fire: NONE
				AW Cert: SPE

Summary

The private pilot stated that, during the initial climb after takeoff, he checked the airspeed and lowered the airplane's nose. He reported that the airplane rolled to the right, which he corrected, then the airplane "abruptly" rolled to the left. He was unable to correct the roll, and the airplane descended and impacted terrain. The pilot reported that there were no mechanical failures or malfunctions of the airplane. A witness reported that the airplane was airborne in a wings level, "very high" nose-up attitude when he first saw it. He stated that, after a few seconds, the left wing and the nose dropped. Shortly after that, the right wing dropped, the nose-down attitude increased, and the airplane impacted terrain. A video of the accident corroborated the witness account. The witness's recollection of the accident, along with the video of the accident airplane just before the accident, suggest that the pilot exceeded the airplane's critical angle of attack during the initial climb, which resulted in an aerodynamic stall. ♂

Cause Narrative

THE NATIONAL TRANSPORTATION SAFETY BOARD DETERMINED THAT THE CAUSE OF THIS OCCURRENCE WAS: The pilot's failure to maintain adequate airspeed during takeoff, which resulted in an exceedance of the airplane's critical angle of attack and subsequent aerodynamic stall.

Events

1. Takeoff - Loss of control in flight
2. Uncontrolled descent - Collision with terr/obj (non-CFIT)

Findings - Cause/Factor

1. Personnel issues-Task performance-Use of equip/info-Aircraft control-Pilot - C

Narrative

On October 1, 2016, at 1300 central daylight time, an experimental light sport, amateur-built Drake Kitfox Speedster, N157D, collided with the terrain following a loss of control after takeoff from the Jennings Airport (3R7), Jennings, Louisiana. The pilot received serious injuries. The airplane was substantially damaged. The airplane was registered to and operated by the private pilot under the provisions of 14 Code of Federal Regulations Part 91 as a personal flight. Visual meteorological conditions prevailed for the flight, which was not operated on a flight plan. The intended destination was Slaughter Airpark (SL77), Slaughter, Louisiana.

The pilot reported that he was the last airplane in a flight of four to takeoff. He stated he verified his altitude and airspeed, and retracted the flaps during the takeoff. He stated he checked the airspeed, lowered the nose of the airplane, and resumed the climb. The pilot reported the airplane rolled to the right, which he corrected, then the airplane "abruptly" rolled to the left. He was unable to correct the roll and the airplane descended to impact with the terrain. The pilot reported that there were no mechanical failures/malfunctions of the airplane.

A witness reported the airplane was airborne in a wings level, "very high" nose up attitude when he first saw it. He stated that after a few seconds the left wing dropped and the nose lowered. Shortly after that, the right wing dropped and the airplane nosed down even more until it impacted the terrain.

A video posted on YouTube by furley85 showed the airplane climbing out in a steep, nose-high attitude after takeoff. The airplane was a couple hundred feet above the grass airstrip when the left wing dropped and the nose lowered. The airplane rolled back through wings level then the right wing dropped and the airplane impacted the terrain. The airplane received substantial damage to the wings and fuselage.

National Transportation Safety Board - Aircraft Accident/Incident Database

Accident Rpt# ERA16LA014 10/14/2015 1445 CDT Regis# N4931M Eufala, AL Apt: Weedon Field EUF
Acft Mk/Mdl GROSS MICHAEL E STOL CH 701 Acft SN 7-4931 Acft Dmg: SUBSTANTIAL Rpt Status: Factual Prob Caus: Pending
Eng Mk/Mdl ROTAX 912UL Acft TT 738 Fatal 0 Ser Inj 0 Flt Conducted Under: FAR 091
Opr Name: KARL PAUBEL Opr dba: Aircraft Fire: NONE
AW Cert: SPE

Summary

The private pilot had purchased the airplane a day earlier and, while flying it back to his home airport, stopped at an en route airport to refuel. The pilot stated that, about mid-field during the takeoff, the engine began to run roughly and vibrate, was not producing full power, and the flight controls "got mushy." Shortly after the takeoff, at an altitude of 50 ft, the airplane veered to the left, impacted the ground, and nosed over. The pilot noted that the airplane took longer to take off due to a crosswind; however, weather recorded at the airport 13 minutes after the accident included calm winds. Post-accident examination of the airframe and engine revealed no evidence of any preexisting mechanical anomalies that would have precluded normal operation, and the reason for the loss of engine power could not be determined.

Cause Narrative

THE NATIONAL TRANSPORTATION SAFETY BOARD DETERMINED THAT THE CAUSE OF THIS OCCURRENCE WAS: A partial loss of engine power during takeoff for reasons that could not be determined, because post-accident examination revealed no evidence of any pre-impact mechanical malfunctions or failures. Also causal was the pilot's decision to continue the takeoff following the loss of power.

Events

1. Initial climb - Loss of control in flight

Findings - Cause/Factor

1. Aircraft-Aircraft oper/perf/capability-Performance/control parameters-Pitch control-Incorrect use/operation
2. Aircraft-Aircraft oper/perf/capability-Performance/control parameters-Angle of attack-Capability exceeded
3. Personnel issues-Action/decision-Action-Incorrect action performance-Pilot - C

Narrative

On October 14, 2015, about 1445 central daylight time, an experimental amateur-built Zenith STOL CH701, N4931M, was substantially damaged shortly after taking off from Weedon Field (EUF), Eufala, Alabama. The private pilot was not injured. Visual meteorological conditions prevailed, and no flight plan had been filed for the flight to Eu-Wish Airport (MU68), Hermann, Missouri. The personal flight was operating under the provisions of 14 Code of Federal Regulations Part 91.

After the accident, the pilot was granted permission by the NTSB investigator in charge to transport the airplane to his home in Missouri, being advised that additional information would be requested. The pilot subsequently failed to respond to any NTSB information requests, either directly or through his attorney. The investigation could thus only rely on the information gathered onsite by the responding Federal Aviation Administration (FAA) inspector, and on a written statement from the pilot subsequently provided through his attorney to the FAA inspector.

According to the pilot, he had purchased the airplane the day before in Florida, and was flying it home to Missouri, stopping at EUF to refuel. After refueling, the engine would not start, and the battery discharged. After charging the battery, the engine started "normally."

In a written statement the day of the accident, the pilot stated that after takeoff, about 50 feet above the runway, the airplane "turned left and did not respond to any control inputs to trim right and stay over the runway. Instead, it continued a left bank and impacted the ground."

In a later statement, the pilot stated that he had performed an engine run-up at 4,000 rpm without noting any anomalies. After which, he taxied to south end of runway 36 and commenced the takeoff. After applying full power, the airplane took longer than normal to take off due to crosswind conditions. About 50 feet above the runway, at mid-field, the engine began to run roughly and vibrate, and was not producing full power. The pilot attempted to "smooth out" the engine by adjusting the throttle; there was no mixture control.

The pilot then attempted to land the airplane back on the runway, but in the process, it veered off the left side and flipped upside-down. The pilot egressed the airplane, and reached back in to turn off the fuel valve as the emergency vehicles arrived.

According to the responding FAA inspector, the airplane had been moved to a hangar prior to her arrival. There, she noted that one blade of the three-bladed composite propeller was broken off and one was cracked. There was no bending or twisting of the propeller blades. There was no dripping or splattering of oil

on the engine cowling. No anomalies were noted within the engine compartment.

The fuel bowl on the left side of the engine was full, and both wing fuel tanks were full of fuel. The inspector also drained fuel from each of the two wing tanks, and the fuel sump on the underside of the fuselage, just aft the engine compartment, and all samples were "clear and clean."

The inspector noted no control binding to the elevator or rudder, and while checking for aileron binding (none noted), the pilot stated that the controls "got mushy."

The FAA inspector subsequently drove out along the runway to where the airplane was recovered, which was about 3,200 feet from the departure end of the 5,000-foot runway.

Weather, recorded at the airport 13 minutes after the accident, included clear skies and calm winds.

National Transportation Safety Board - Aircraft Accident/Incident Database

Accident Rpt# GAA18CA103 01/13/2018 1630 PST Regis# N4163B Death Valley Na, CA Apt: Furnace Creek L06
Acft Mk/Mdl HARROP BLAKE RV 7-A Acft SN 884163 Acft Dmg: SUBSTANTIAL Rpt Status: Prelim Prob Caus: Pending
Fatal 0 Ser Inj 0 Flt Conducted Under: FAR 091
Opr Name: HARROP BLAKE N Opr dba: Aircraft Fire: NONE

National Transportation Safety Board - Aircraft Accident/Incident Database

Accident Rpt# GAA18CA049	11/18/2017 1745 MST	Regis# N953LS	Casa Grande, AZ	Apt: Casa Grande Muni CGZ
Acft Mk/Mdl JOHN ROSCOE AUTOGYRO CAVALON-NO	Acft SN V00110	Acft Dmg: DESTROYED	Rpt Status: Factual	Prob Caus: Pending
Eng Mk/Mdl ROTAX 914	Acft TT 241	Fatal 0	Ser Inj 0	Flt Conducted Under: FAR 091
Opr Name: WILLIAM J. FLEMING	Opr dba:	Aircraft Fire: GRD		AW Cert: SPE

Events

1. Landing - Loss of control on ground
-

Narrative

The pilot reported that, during landing, the right wheel touched down first on the runway and the gyroplane veered to the right. He added that, the "aircraft bounced from one wheel to the other" multiple times until the main rotor blade struck the runway. The gyroplane then rolled to the right, slid off the runway and came to rest on its left side. A post-crash fire ignited in the engine compartment and consumed the gyroplane.

The gyroplane was destroyed.

The pilot reported that there were no preaccident mechanical failures or malfunctions with the gyroplane that would have precluded normal operation.

National Transportation Safety Board - Aircraft Accident/Incident Database

Accident Rpt# WPR17LA110	05/26/2017 1445 PDT	Regis# N4579J	Concord, CA	Apt: Buchanan Field Airport CCR
Acft Mk/Mdl JOHNSON GLASTAR		Acft SN 5819	Acft Dmg: SUBSTANTIAL	Rpt Status: Factual Prob Caus: Pending
Eng Mk/Mdl LYCOMING O-320		Acft TT 206	Fatal 0 Ser Inj 0	Flt Conducted Under: FAR 091
Opr Name: SNAGWOOD CORP		Opr dba:		Aircraft Fire: NONE
				AW Cert: SPE

Summary

The student pilot reported that the purpose of the flight was to practice landings. The takeoff was uneventful, but when the airplane was on the base leg, the engine suddenly quit without warning or making any abnormal noises. The pilot attempted to restart the engine several times without success. He initiated a forced landing onto a roadway, during which the left wing impacted a light pole. The nosewheel collapsed, and the airplane then crossed an intersection and slid to a rest.

Postaccident engine examination revealed that the carburetor was fracture-separated at the attachment flange, and the air box exhibited heavy impact damage. The carburetor was disassembled, and the needle valve and floats were observed stuck in the "up" position. Slight force was applied to the float assembly, and it moved freely. No contaminants or obvious bends in the float system were found. Although a stuck needle valve can restrict fuel from entering the carburetor bowl and lead to a loss of engine failure, impact damage precluded a determination of whether the needle was stuck before the accident or during the impact sequence. No other mechanical anomalies were found with the engine that would have precluded normal operation; therefore, the reason for the loss of engine power could not be determined.

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 based on the available evidence.

Events

1. Approach-VFR pattern base - Loss of engine power (total)
2. Approach-VFR pattern base - Off-field or emergency landing
3. Landing - Collision with terr/obj (non-CFIT)

Findings - Cause/Factor

1. Not determined-Not determined-(general)-(general)-Unknown/Not determined - C
2. Environmental issues-Physical environment-Object/animal/substance-Pole-Contributed to outcome

Narrative

On May 26, 2017, about 1445 Pacific daylight time, a Johnson Glastar airplane, N4579J, experienced a total loss of engine power while in the traffic pattern for Buchanan Field Airport (CCR), Concord, California. The student pilot, sole occupant, sustained minor injuries, and the airplane sustained substantial damage to both wings. 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 and no flight plan was filed for the local flight. The flight originated from CCR about 1443.

The pilot reported that the purpose of the flight was to practice landings. The pilot took off uneventfully and flew the traffic pattern. When on the base leg, the engine suddenly quit without warning or any abnormal noises. He attempted to restart the engine several times, but to no avail. The pilot initiated a forced landing onto a roadway; during landing, the airplane's left wing impacted a light pole. The airplane traversed across an intersection when the nosewheel collapsed and the airplane slid to a rest.

During a postaccident engine examination, the spark plugs were removed and exhibited normal operating signatures when compared to the Champion "check-a-plug" chart. The engine was boroscoped and no internal abnormalities were noted. The engine was rotated by hand and continuity was established all the way through to the accessory section. Thumb compression was established on all cylinders, and the valves moved freely and evenly. The magnetos were operationally tested and both produced spark. Air was blown through the fuel lines and they were clear of debris. The carburetor was fracture separated at the attachment flange and the air box sustained heavy damage. The carburetor was removed and disassembled; the fuel screen was clear of debris, and the carburetor bowl was empty. It was noted that the needle valve and floats were stuck in the up position. Slight force was applied to the float assembly and it moved freely; there were no contaminants or obvious bends in the float system.

National Transportation Safety Board - Aircraft Accident/Incident Database

Accident Rpt# GAA18CA075	12/07/2017 1950 MST	Regis# N9738J	Limon, CO	Apt: Limon Muni LIC
Acft Mk/Mdl JONES KENT C VANS RV-10-NO SERIES	Acft SN 40296	Acft Dmg: SUBSTANTIAL	Rpt Status: Factual	Prob Caus: Pending
Eng Mk/Mdl LYCOMING IO-540-X	Acft TT 925	Fatal 0	Ser Inj 0	Flt Conducted Under: FAR 091
Opr Name: CARL BAHR	Opr dba:	Aircraft Fire: NONE		
AW Cert: SPE				

Events

1. Approach - Miscellaneous/other

Narrative

The pilot reported that, during a night approach, the runway Precision Approach Path Indicator lights indicated the airplane was on a proper glide path. Shortly afterward, the airplane encountered a "strong gust of wind" and "lost significant altitude". He added engine power and raised the airplane's nose to intercept the glide path. A few seconds later, he felt a slight bump and heard a scraping noise to his right. He looked to the right and when he returned his focus to the approaching runway, he noticed that the airport lights were no longer lit, and the airport was in "complete darkness". He added that, he "couldn't really see anything and wasn't sure exactly where the runway was, [but he] knew [he] was going to have a hard landing". He then pulled the power back, moved the mixture to idle cut off, and turned the fuel selector off. Subsequently, the airplane landed hard off the runway, bounced, and slid sideways coming to rest after striking a tree.

The airplane sustained substantial damage to the fuselage, both wings and empennage.

The pilot reported that there were no preaccident mechanical failures or malfunctions with the airplane that would have precluded normal operation.

Following the accident, it was discovered that during the approach the airplane struck a powerline that supplied the airport power.

The automated weather observation system at the accident airport reported, about the time of the accident that the wind was from 330ø at 6 knots. The pilot was on a visual approach for runway 34.

According to the Federal Aviation Administration investigator assigned to the accident, stated in a telephone conversation with the National Transportation Safety Board investigator in charge, the powerline was estimated to be 75 ft. above the ground and one half mile from the runway threshold. The powerline crossed perpendicular to the runway.

National Transportation Safety Board - Aircraft Accident/Incident Database

Accident Rpt# WPR18LA065 01/13/2018 919 HST Regis# N413Z Kapolei, HI Apt: Kalaeloa (John Rodgers Field) JRF
Acft Mk/Mdl LARRY JEFTS JA30 SUPERSTOL-NO SE Acft SN JA435-01-15 Acft Dmg: SUBSTANTIAL Rpt Status: Prelim Prob Caus: Pending
Fatal 0 Ser Inj 0 Flt Conducted Under: FAR 091
Opr Name: JEFTS LARRY Opr dba: Aircraft Fire: NONE

Events

1. Landing-landing roll - Landing gear collapse
-

Narrative

On January 13, 2018, at 0919 Hawaii standard time, an experimental JA30 Superstol, N413Z, was substantially damaged during a ground loop at Kalaeloa Airport /John Rodgers Field (JRF), Kapolei, Hawaii. The private pilot, the sole occupant, was not injured. The airplane was registered to and operated by the pilot under the provisions of 14 Code of Federal Regulations Part 91 as a personal flight. Visual meteorological conditions prevailed no flight plan had been filed.

The pilot reported that earlier that morning, during his first landing at Dillingham Airfield (PHDH), Mokuleia, Hawaii, the right strut "felt stiff" and the airplane behaved as it was trying to ground loop. After landing, the pilot performed a walk around inspection and stated that both landing gears appeared normal. He decided to fly the airplane back to JRF where his hangar was located. About 30 feet into the landing roll, the right strut collapsed and the airplane ground looped.

National Transportation Safety Board - Aircraft Accident/Incident Database

Accident Rpt# CEN18LA082	01/20/2018 1233 CST	Regis# N746LM	Grand Detour, IL	Apt: N/a
Acft Mk/Mdl MATHENY LARRY E CHRISTAVIA MK	Acft SN 015	Acft Dmg: SUBSTANTIAL	Rpt Status: Prelim	Prob Caus: Pending
Eng Mk/Mdl CONT MOTOR O-200		Fatal 0	Ser Inj 2	Flt Conducted Under: FAR 091
Opr Name: MANSKE DAVID R	Opr dba:		Aircraft Fire: NONE	AW Cert: SPE

Events

1. Maneuvering - Controlled flight into terr/obj (CFIT)
-

Narrative

On January 20, 2018, about 1233 central standard time, a Matheny Christavia Mk1 homebuilt airplane, N746LM, struck a power line and an ice-covered river during low-altitude flight near Grand Detour, Illinois. The pilot and pilot-rated passenger were seriously injured, and the airplane was substantially damaged. The airplane was owned and operated by the pilot as a 14 Code of Federal Regulations Part 91 personal flight. Day visual meteorological conditions prevailed, and a flight plan had not been filed for the local flight which had departed from the Chicago/Rockford International Airport (RFD) Rockford, Illinois.

The airplane was observed flying low along a back channel of the Rock River, south of Grand Detour. One witness who lived along the back channel said the airplane went by her house so close that she could see the pilot in the airplane. She estimated the airplane was 15 ft. above the river. Moments later, the airplane struck a power line that crossed the river. The airplane subsequently cartwheeled, and dove straight down, impacting on the ice-covered river.

An examination of the airplane showed a power line wire wrapped around both wings. The airplane's wood propeller was broken and splintered circumferentially. The forward fuel tank between the cabin and the engine was broken open. The airplane was retained for further examination.

National Transportation Safety Board - Aircraft Accident/Incident Database

Accident Rpt# WPR17LA003	10/09/2016 1400	Regis# N914NK	Roberts, ID	Apt: Private PRIV
Acft Mk/Mdl MELBORN JOE B KOLB SPORT 600-NO	Acft SN 792	Acft Dmg: SUBSTANTIAL	Rpt Status: Factual	Prob Caus: Pending
Eng Mk/Mdl ROTAX 914UL	Acft TT 575	Fatal 0	Ser Inj 0	Flt Conducted Under: FAR 091
Opr Name: REQUA KERRY	Opr dba:		Aircraft Fire: NONE	AW Cert: SPE

Summary

The pilot reported that, after participating in a recreational fly-in event, he completed a successful engine run-up and the high-speed taxi test and departed the airstrip. As the airplane reached about 100 ft above ground level, the engine began losing power. The pilot initiated a slight right turn, followed by a left-turn teardrop maneuver. The pilot engaged the airplane's auxiliary fuel pump to maintain engine power, but the propeller stopped rotating a few seconds later. The airplane touched down about 200 ft south of the runway on sage brush, subsequently impacted a debris pile during the landing roll, nosed over, and then came to rest inverted, which resulted in substantial damage to the rudder. After the first taxi test, the pilot returned to the tie-down area and told the property owner that the engine had experienced possible vapor lock but added that he felt comfortable with the engine's ability to develop power after the taxi test. The pilot told the property owner that the engine had experienced vapor lock during previous flights.

During postaccident testing, the engine ran continuously despite momentary interruptions of power during the first three test runs. During two subsequent test runs, the engine power was advanced to full power, and it ran smoothly without interruptions; the cause of the power interruptions in the first three runs could not be determined. Postaccident examination of the engine revealed that the carburetor floats were 24% and 42% heavier than prescribed by the manufacturer's guidance. However, the heavier float weight likely would not have resulted in the in-flight loss of power due to the constant introduction of fuel through the fuel inlet at higher engine speeds.

The carburetor needle clips were found repositioned to the leanest (No. 1) setting, which the pilot had requested. Although the engine manufacturer recommended that the needle clip position remain in the No. 2 position, the engine ran continuously during the engine run, which was accomplished with both carburetor needle clips in the No. 1 position. Therefore, the carburetor needle clip adjustment likely did not contribute to the loss of power.

A representative of the engine manufacturer reported that this particular engine configuration was susceptible to vapor lock and that low fuel in either wing tank may allow air to be ingested, which may lead to vapor lock and fuel starvation. In this case, the engine was still hot from the previous flight and high-speed taxi, which could have increased the potential for heat-induced vapor lock. However, the accident pilot's prior encounters with vapor lock could not be verified, and the airplane was equipped with a fuel return line, which would have prevented the formation of vapor lock. Additionally, air ingestion was unlikely because the low quantity of fuel found in the fuel tank was likely due to postaccident fuel migration. Further, the airplane was equipped with a header tank, which also would have made air ingestion unlikely even if the left tank was empty in flight. Given that the engine did not display any anomalies during the postaccident engine run that would have precluded normal operation, the reason for the in-flight loss of power could not be determined.

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 based on the available information.

Events

1. Enroute-climb to cruise - Loss of engine power (partial)
2. Enroute-climb to cruise - Loss of engine power (total)
3. Landing-landing roll - Collision with terr/obj (non-CFIT)
4. Landing-landing roll - Nose over/nose down

Findings - Cause/Factor

1. Not determined-Not determined-(general)-(general)-Unknown/Not determined - C
2. Environmental issues-Physical environment-Terrain-(general)-Contributed to outcome

Narrative

HISTORY OF FLIGHT

On October 9, 2016, about 1400 mountain daylight time, an experimental amateur-built Kolb Sport 600 airplane, N914NK, was substantially damaged during a forced landing in Roberts, Idaho, following a loss of engine power. The private pilot and his passenger received minor injuries. The airplane was owned and operated by the pilot under the provisions of Title 14 Code of Federal Regulations Part 91. Visual meteorological conditions prevailed and no flight plan was filed for the cross-country flight that departed a private airstrip at approximately 1400 mountain daylight time. The personal flight was destined for Joslin Field - Magic Valley Regional Airport (TWF), Twin Falls, Idaho.

The property owner reported that the pilot completed a high-speed taxi test and subsequently returned to the tie-down area at which time he told the property

National Transportation Safety Board - Aircraft Accident/Incident Database

owner that he had encountered some vapor lock. He further communicated to the property owner that he felt comfortable with the engine's ability to develop power after the previous taxi test. The pilot had indicated to the property owner that he had experienced vapor lock during previous flights.

According to the pilot, he departed runway 24 after a successful pre-flight inspection and engine run-up. As the airplane reached approximately 100 ft above ground level (agl), the pilot perceived that the engine was losing power. He then lowered the nose and initiated a left turn teardrop maneuver to land on runway 06. The pilot engaged the airplane's auxiliary fuel pump in an effort to maintain engine power, but the propeller stopped rotating a few seconds later. Towards the end of the turn, the pilot leveled out early to land parallel to the runway, as he determined that the airplane would not reach the dirt landing strip. The airplane touched down about 200 ft south of the runway in sage brush, and subsequently impacted terrain before it nosed over and came to rest inverted, which resulted in substantial damage to the rudder. The pilot later recalled that he had discussed the possibility of vapor lock with the property owner but could not remember a previous encounter with this condition.

According to the owner of the airport property, the runway is a dirt strip about 2,200 ft long by 40 ft wide in a 24/06 runway configuration. A fly-in was held on the day of the accident with about 17 airplanes in attendance. At the conclusion of the event, the property owner walked out to the tie-down area with the accident pilot to see his airplane; the pilot and his wife then boarded the airplane. The airplane then lifted off the surface of runway 24 about 1,000 ft down the runway. During climbout the property owner observed the airplane veer to the right, and approximately 100 ft agl the airplane began a left turn, but did not appear to be accelerating. The pilot later told the property owner that the engine lost power during the turn and that he determined he would not be able to make it to runway 06. The airplane touched down on uneven terrain and flipped over inverted after it impacted a 4-foot-deep hole that contained debris. With assistance from his guests, the property owner turned the airplane over. Almost immediately, a blue colored liquid with an odor and appearance similar to 100 low lead (100 LL) aviation grade gasoline started to leak from the airplane.

PERSONNEL INFORMATION

The pilot held a private pilot certificate with ratings for single-engine land and single-engine sea. He did not possess a valid medical certificate at the time of the accident. According to the pilot, he had accumulated 10 total flight hours in the 30 days that preceded the accident, 500 flight hours in the airplane make and model, and 1,864 total flight hours in all aircraft.

AIRCRAFT INFORMATION

Construction of the airplane was completed in 2004 by the airplane's previous owner and subsequently registered to the accident pilot on May 11, 2010. The airplane was powered by a Rotax 914, turbo-charged, direct drive, air/liquid cooled, 115 hp engine. The airplane's most recent conditional inspection was completed on February 2, 2016, at which time the airplane and engine had accumulated 521.3 total flight hours. The airplane's tachometer displayed 577 hours at the time of the accident.

Postaccident examination by a Federal Aviation Administration inspector revealed that the right wing fuel tank was approximately half full, and the left fuel tank was low. According to the pilot, the recovery team drained approximately 6 gallons of fuel from the right tank, and 1 gallon from the left before the airplane was moved. He stated that he purchased 14.1 gallons of 100 LL aviation grade gasoline at Jerome County Airport, Jerome Idaho, before he departed for Roberts. The pilot normally uses automobile gasoline.

The airplane was equipped with two composite wing fuel tanks, each with a capacity of 12 gallons (11.25 gallons usable). The dihedral angle of the wings is 0° with a 1° angle of incidence. Fuel quantity was gauged by fuel senders located in each wing connected to a fuel quantity indicator in the cockpit. Each of the three tanks are inter-vented and each wing tank was vented to the outside. The airplane was not equipped with a fuel selector valve. Fuel was fed by gravity down two fuel lines in the cabin to a 0.2 gallon aluminum header tank located behind the seat back. The fuel flowed to a fuel strainer, through a fuel shutoff valve, and then to a main boost pump and an auxiliary boost pump before it arrived at the engine. Both pumps were actuated by separated switches at the instrument panel; the main boost pump was located on the pilot's side and the auxiliary boost pump on the passenger's side. The design allowed fuel to be fed from both tanks simultaneously, and there was no provision for the pilot to make a fuel tank selection. The airplane was equipped with a fuel return line that routed unused fuel to the wing fuel tanks to prevent fuel vapor lock.

An examination of the fuel lines did not reveal any obstructions or preaccident breaches.

The airplane was equipped with a Garmin Area 500 GPS unit. The unit recorded multiple flights prior to the accident flight; however, the accident flight was not

National Transportation Safety Board - Aircraft Accident/Incident Database

recorded. The unit data showed a flight from KJER to U56, which is about 10 nm east of Roberts and a total distance of 127 miles over 1.2 hours of flight time.

METEOROLOGICAL INFORMATION

The 1353 recorded weather observation at Idaho Falls Regional Airport, Idaho Falls, Idaho, about 14 nm southeast of the accident site, included wind from 210o true at 15 knots with gusts to 22 knots, visibility 10 statute miles, clear skies, temperature 21o C, dew point 01o C, and an altimeter setting of 30.07 inches of mercury.

WRECKAGE AND IMPACT INFORMATION

Engine and Fuel System Examinations

The engine was examined at a recovery facility in Idaho by a representative of the engine manufacturer under the supervision of the NTSB Investigator-in-Charge. The inspection included an examination of the carburetors and two engine test runs.

According to the airplane's maintenance logbooks, both carburetors were removed on May 12, 2016, and sent to California Power Systems for overhaul. The logbook entry that captured the removal of the carburetors was recorded at a total tachometer time of 537.1 total flight hours, 38 flight hours before the accident flight. The entry from the carburetor overhaul facility stated that a "Rotax carb overhaul kit [was] installed as per Rotax Heavy Maintenance Manual." The entry further stated that the "Jet needle was moved to a leaner setting per customer request." During a follow-up conversation, the accident pilot reported that he requested the adjustment because he was operating the airplane at high field elevations. The component examination revealed that the needle jets to both carburetors were in the number 1 positions, the leanest setting. Both pistons exhibited no visual scoring, which indicated that the carburetors were properly balanced. Each carburetor main jet was free of obstructions.

A maintenance manual excerpt furnished by the engine manufacturer showed that carburetor needle clips should remain in the number 2 position.

According to a representative of the carburetor overhaul facility, the pilot's service facility purchased an overhaul kit that did not come with carburetor floats. When the components arrived at the overhaul facility, the units were disassembled and the symmetrical floats were flipped, which they stated was a standard industry practice. However, the engine manufacturer requires the installation of new floats instead of reinstalling them upside down. Both sets of carburetor floats were removed and weighed. The floats were placed in glasses filled with 100 LL aviation grade gasoline and allowed to soak overnight for a period of 12 hours, which is in accordance with the engine manufacturer's test procedure. At the end of the test period, the right carburetor floats' weight increased to 8.9 grams and the left carburetor floats' weight increased to 10.1 grams. It is presumed that any remaining fuel within the floats would have evaporated between the accident and the postaccident engine examination, a span of approximately 2 months. According to the Rotax maintenance manual, the floats are required to be weighed every 200 hours. Additionally, the guidance states that the carburetors must be removed and inspected every 200 hours.

In an effort to test engine operation, a fuel tank was plumbed directly into the header tank through the left wing fuel line at the wing root. Water was fed into the radiator to prevent the engine from overheating, as the radiator was damaged during the accident. Two complete engine tests were subsequently performed: the first was accomplished with the main fuel pump on, and the second was performed with both the main and auxiliary fuel pumps on. The throttle was advanced to full power approximately 5 times during these tests to capture the performance of the engine with only the main fuel pump engaged, and then with both the main and auxiliary fuel pumps on. The following engine parameters were documented during each test at idle power, maximum rated power, and maximum continuous power: fuel pressure, oil temperature, oil pressure, exhaust gas temperature, cylinder head temperature, and manifold pressure.

During the first test, the engine lost power for approximately 1 second at 2,500 rpm and 24 in. Hg manifold pressure when the throttle was advanced to full power. The results of the first complete engine test were within the ranges prescribed by the engine manufacturer.

Prior to the second complete engine test the throttle was advanced twice to the full forward position with only the main fuel pump on, and once with both the main and auxiliary fuel pumps on. During both tests, the engine lost power for about 1 second at 2,500 rpm and 24 in. Hg. manifold pressure. A 4th and 5th test were administered with the main fuel pump on and both the main and auxiliary fuel pumps on, respectively. During these final tests, the engine advanced to full power smoothly without any interruptions.

The results of the second complete engine test were within the ranges prescribed by the engine manufacturer.

Vapor Lock

The pilot could not recall a prior encounter with vapor lock before the day of the accident.

A representative of the engine manufacturer reported that the accident airplane type was susceptible to vapor lock, particularly in the presence of high ambient temperatures, which may increase the temperature under the cowling and lead to fuel system heat soak. Additionally, the representative stated that low fuel in either wing may allow air to be ingested, which may lead to vapor lock and fuel starvation.

According to the FAA Pilot's Handbook of Aeronautical Knowledge, vapor lock is defined as "a problem that occurs when the liquid fuel changes state from liquid to gas while still in the fuel delivery system. This disrupts the operation of the fuel pump, which causes a loss of feed pressure to the carburetor or fuel injection system, and results in transient loss of power or complete stalling. Restarting the engine from this state may be difficult. The fuel can vaporize due to being heated by the engine, by the local climate or due to a lower boiling point at high altitude."

The FAA Airplane Flying Handbook defines vapor lock as "a condition in which air enters the fuel system and it may be difficult, or impossible, to restart the engine. Vapor lock may occur as a result of running a fuel tank completely dry, allowing air to enter the fuel system."

On the day of the accident the pilot was attempting to depart with the engine still hot from the previous flight.

National Transportation Safety Board - Aircraft Accident/Incident Database

Accident Rpt# WPR16LA050 01/10/2016 1135 PST Regis# N1950J Fresno, CA Apt: Fresno Chandler Executive Apt FCH
Acft Mk/Mdl MOORE ONEX Acft SN ONX0118 Acft Dmg: SUBSTANTIAL Rpt Status: Factual Prob Caus: Pending
Eng Mk/Mdl VW TYPE 1VW Fatal 1 Ser Inj 0 Flt Conducted Under: FAR 091
Opr Name: RONALD MOORE Opr dba: Aircraft Fire: NONE
AW Cert: SPX

Summary

The pilot/builder was carrying out the initial flight test after recently building the amateur experimental airplane. Shortly after takeoff, the airplane's engine experienced a total power loss and the pilot initiated a descending left turn in order to avoid an airport fence. Subsequently, the airplane impacted terrain, in a nose down attitude with the left wing low.

An examination of the engine revealed that the Force One Main Bearing seized to the crankshaft. Further, there were multiple circular impressions on the bearing surface. Based on this evidence, it is likely that while building the experimental engine, the pilot did not properly align the Force One Main Bearing, and the oil feed hole was inadvertently used as the dowel pin hole, which resulted in a blockage of the oil transfer hole, thus preventing oil into the bearing and resulted in engine seizure and total power loss.

Cause Narrative

THE NATIONAL TRANSPORTATION SAFETY BOARD DETERMINED THAT THE CAUSE OF THIS OCCURRENCE WAS: The pilot/builder's failure to properly align the Force One Main Bearing, which resulted in a blockage of the oil transfer hole and culminated with a total engine power loss. Contributing to the accident was the pilot's failure to arrest the bank and sink rate prior to impact.

Events

1. Prior to flight - Aircraft maintenance event
2. Initial climb - Loss of engine power (total)
3. Landing-flare/touchdown - Collision with terr/obj (non-CFIT)

Findings - Cause/Factor

1. Personnel issues-Task performance-Maintenance-Installation-Owner/builder - C
2. Personnel issues-Task performance-Use of equip/info-Aircraft control-Pilot - F
3. Personnel issues-Action/decision-Info processing/decision-Decision making/judgment-Pilot - F

Narrative

On January 10, 2016, about 1135 Pacific standard time, an experimental amateur built airplane, Moore Onex, N1950J, experienced a loss of engine power shortly after takeoff from the Fresno Chandler Executive Airport (FCH), Fresno, California. The commercial pilot, who was the sole person on board, was fatally injured. The airplane sustained substantial damage during the forced landing. The airplane was registered to and operated by the pilot as a Title 14 Code of Federal Regulations Part 91 personal flight. Visual meteorological conditions prevailed and no flight plan was filed for the local flight.

The pilot received serious injuries during the accident and succumbed to his injuries several days after the accident.

At 11:24, airport security camera video showed the accident airplane taxi to the run-up area to prepare for its initial flight test. At 11:34, the video showed the airplane depart from runway 29 and climb out normally through about 200 feet above ground level (agl). Another video from a witness, who was located near the taxiway, depicts the engine failure. The video audio echoed a smooth and complete engine shutdown that occurred in about 1.5 seconds.

According to the pilot, shortly after the engine failure, he initiated a descending, left turn, in order to avoid an airport fence. Multiple witnesses, located at the airport, observed the airplane enter a steep left bank and rapidly descending as it pitched down. Subsequently, the airplane impacted terrain in a nose down, left wing low attitude.

The accident airplane was equipped with a Garmin GPS 296, which revealed the airplane's flight path. The data revealed that the accident flight was about 46 seconds in duration. During the last 13 seconds of recorded data, the airplane was initially at an airspeed of 72 knots. The data then showed a continuous and rapid loss of airspeed. Additionally, the data showed the airplane starting to descend at that time. About the last 7 seconds of recorded data, the airplane made a left turn off the runway centerline that continued to the accident site. The data stopped recording at 11:35.

Postaccident examination revealed that the airplane came to rest upright, nearly 180° from the runway heading and 800 ft from the runway threshold. The ground scars and airplane damage were consistent with the airplane impacting the ground in a nose down attitude, with left bank. The engine was partially

attached to the airframe and found to be seized

A disassembly was accomplished of the experimental engine. During the teardown examination, about 24 ounces of oil drained from the sump and internal portions of the engine. The oil screen was examined and was clear of metal contamination. The engine was disassembled and the center main bearing was galled, but was not seized, to the crankshaft journal. The force one main bearing was observed to be seized to the crankshaft.

According to the Airframe & Powerplant mechanic and the Federal Aviation Administration (FAA) inspector, during the assembly of the engine, improper indexing of the Force One Main Bearing to the crankcase resulted in a complete misalignment of the oil passages. This misalignment blocked the oil transfer hole to the bearing, near the bearing retention dowel pin, thus preventing oil flow into the bearing. Circular impressions were observed on the force one main bearing crankshaft surface and on the crankcase bearing support, which would be consistent with the misalignment, where the oil feed hole was inadvertently used as the dowel pin hole.

In the airplane engine assembly manual, it states: "First, check the fit of the Force One Main Bearing. Take one dowel pin and place it in the engine case bearing dowel pin hole. You have to place the dowel pin at the end of a drill and use a file to remove several thousandths from it's diameter to get it to fully seat in the dowel pin hole. When the dowel pin is installed, place the bearing in position, lining up the dowel pin hole in the bearing with the dowel pin in the engine case. Make sure the bearing is not held from seating fully in the case by a down pin that is too "high" by completing a visual check." Following this passage, the manual states: "Be careful not to mistake the oil feed hole for the dowel pin hole!"

National Transportation Safety Board - Aircraft Accident/Incident Database

Accident Rpt# GAA17CA541	09/16/2017 1710 PDT	Regis# N232TB	Manzanita, OR	Apt: Nehalem Bay State 3S7
Acft Mk/Mdl RUDBERG TODD W VANS ACFT		Acft SN 81315	Acft Dmg: SUBSTANTIAL	Rpt Status: Factual Prob Caus: Pending
Eng Mk/Mdl LYCOMING IO390		Acft TT 1356	Fatal 0 Ser Inj 0	Flt Conducted Under: FAR 091
Opr Name: RUDBERG TODD W		Opr dba:		Aircraft Fire: NONE
				AW Cert: SPE

Events

1. Landing-landing roll - Wildlife encounter (non-bird)

Narrative

The pilot, reported that he landed on the runway and noticed an elk running toward the nose of the airplane. He applied full throttle and climbed to avoid impact, but the propeller struck the elk.

The pilot shut off the engine and the airplane descended to the runway. When the airplane touched down on the runway, a second elk collided with the airplane's left wing. The airplane veered to the left and the right main landing gear collapsed. The airplane then veered to the right and came to rest on the right wing.

The airplane sustained substantial damage to both wings.

The Airport Facility Directory for the accident airport, states that there is wildlife in the vicinity of the runway.

The pilot reported that there were no preaccident mechanical malfunctions or failures with the airplane that would have precluded normal operation.

National Transportation Safety Board - Aircraft Accident/Incident Database

Accident Rpt# ERA17LA314	09/05/2017 1835 CDT	Regis# N16KR	Raymond, MS	Apt: PVT
Acft Mk/Mdl RUDDER DWIGHT K KITFOX IV 1200	Acft SN LBS084	Acft Dmg: SUBSTANTIAL	Rpt Status: Prelim	Prob Caus: Pending
Eng Mk/Mdl ROTAX 912 UL	Acft TT 608	Fatal 0 Ser Inj 0	Flt Conducted Under: FAR 091	
Opr Name: HOCKIN RICHARD PAUL	Opr dba:	Aircraft Fire: NONE		AW Cert: SPE

Events

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

Narrative

On September 5, 2017, about 1835 central daylight time, an experimental, amateur-built Kitfox IV 1200 Speedster, N16KR, was substantially damaged during a forced landing in Raymond, Mississippi. The sport pilot was not injured. Day visual meteorological conditions prevailed at the time, and no flight plan was filed for local flight that departed a private airport about 1830. The personal flight was conducted under the provisions of Title 14 Code of Federal Regulations Part 91.

According to the pilot, during the initial climb at an altitude of about 250 ft, the engine lost partial power. He attempted to restore power by adjusting the throttle and was unsuccessful. A few seconds later the engine lost all power. He then performed a successful forced landing to a field. During the landing rollout, the airplane struck a log and flipped over.

Examination of the airplane by a Federal Aviation Administration inspector revealed substantial damage to the left wing outboard of the wing strut, and buckling of the fuselage about midway between the rear window and the vertical stabilizer.

According to the airplane logbook, the most recent condition inspection was performed August 22, 2017, about 1 flight hour prior to the accident. The last maintenance entry, dated September 1, 2017, read "replaced fuel line at fuel cut off valve."

National Transportation Safety Board - Aircraft Accident/Incident Database

Accident Rpt# WPR18LA071A 01/18/2018 1730 MST Regis# UNREG Marana, AZ Apt: N/a
Acraft Mk/Mdl SIX CHUTER SPIRIT Acft Dmg: SUBSTANTIAL Rpt Status: Prelim Prob Caus: Pending
Fatal 0 Ser Inj 1 Flt Conducted Under: FAR 091
Opr Name: LARRY HINTON Opr dba: Aircraft Fire: NONE

Events

1. Enroute - Midair collision

Narrative

On January 18, 2018, about 1730 mountain standard time, an unregistered experimental Six Chuter Spirit light sport aircraft and an unregistered experimental Destiny light sport aircraft were substantially damaged after a mid-air collision and subsequent impact with the ground in Marana, Arizona. The non-certificated pilot of the Destiny received serious injuries and the non-certificated pilot of the Six Chuter was not injured. The airplane was operated as a personal flight, conducted under the provision of 14 Code of Federal Regulations Part 91. Visual meteorological conditions prevailed and a flight plan was not filed for the local flight, which originated from a dirt runway.

According to the pilot of the Six Chuter aircraft, at the time of the accident he had received a few hours of flight training, but had not received any formal training towards a private pilot certificate. After experiencing a few hours as a passenger in a powered parachute aircraft he was invited to fly the Six Chuter while his Uncle, and owner of both aircraft, flew the Destiny. During the flight, the Six Chuter pilot, pilot A, turned to the east while cruising at approximately 100 ft above ground level. He observed his uncle, pilot B, on a northerly course and decided to maintain his altitude and heading, but his uncle then turned to the west on a direct path towards the Six Chuter. Moments later the Six Chuter collided with the parachute of the Destiny, which bound the Six Chuter's propeller. The Six Chuter spun 180° and drifted aft as the aircraft descended to the ground. The right side cabin of the Destiny impacted the ground after the aircraft entered a nose down attitude and rapid descent without a parachute. Pilot A reported no mechanical malfunctions or anomalies that could have precluded normal operation prior to the loss of power.

Photographs furnished by local law enforcement showed substantial damage to the structural tubing of both aircraft.

The wreckage has been retained for further examination.

National Transportation Safety Board - Aircraft Accident/Incident Database

Accident Rpt# GAA18CA015	10/18/2017 1715 EDT	Regis# N37TP	Sidney, NY	Apt: Sidney Muni N23
Acft Mk/Mdl THOMAS G PARKHURST KITFOX IV-NO	Acft SN ASC-199	Acft Dmg: SUBSTANTIAL	Rpt Status: Factual	Prob Caus: Pending
Eng Mk/Mdl ROTAX 912	Acft TT 81	Fatal 0	Ser Inj 0	Flt Conducted Under: FAR 091
Opr Name: PARKHURST, THOMAS G.	Opr dba:	Aircraft Fire: NONE		AW Cert: SPE

Events

3. Approach-VFR go-around - Loss of control in flight

Narrative

The pilot reported that, during final approach, the airplane was "out of alignment to the left edge of the runway." He decided to add throttle and realign with the runway, but as he reached for the throttle to add power, at that instant, he was "blinded" by sun glare and he had "no memory of [the] events for approximately 6 seconds" after that point. He added that, just prior to impact, he saw the ground but "there was nothing that could be done." The airplane impacted an open parking lot in a nose low, left wing down attitude.

The airplane sustained substantial damage to fuselage, empennage, and both wings.

During a telephone conversation with the National Transportation Safety Board investigator-in-charge, the passenger reported that during landing the airplane was crabbing to the left, but traveling forward. He reported that prior to the runway threshold, there was a momentary sun flash that "lit up the plastic windscreen." He further reported that, the pilot applied power, pulled back on the control stick, and the airplane "spiraled" and "twisted" left and downward into a parking lot.

The pilot did not report that there were any preaccident mechanical malfunctions or failures with the airplane that would have precluded normal operation.

National Transportation Safety Board - Aircraft Accident/Incident Database

Accident Rpt# GAA18CA067	12/01/2017 1600 EST	Regis# N701TF	Mount Airy, NC	Apt: Mount Airy/surry County MWK
Acft Mk/Mdl TODD FOLEY ZENITH 701-NO SERIES	Acft SN 4714	Acft Dmg: SUBSTANTIAL	Rpt Status: Factual	Prob Caus: Pending
Eng Mk/Mdl ROTAX 912	Acft TT 8	Fatal 0	Ser Inj 0	Flt Conducted Under: FAR 091
Opr Name: REGINALD F. DAVIS	Opr dba:	Aircraft Fire: NONE		AW Cert: SPE

Events

1. Takeoff - Loss of control in flight

Narrative

The pilot of the experimental amateur-built airplane reported that, during takeoff, he raised the nose after reaching about 20 miles per hour (mph), and about 40 mph the airplane lifted off the runway. He "held the stick back just a little [too] long and it started to tip stall to the left and [he] pushed the stick forward." He added that he applied right aileron and rudder because the airplane was drifting to the left side of the runway. Subsequently, the airplane aerodynamically stalled, bounced on the runway and the right wheel separated from the airplane. He then, with full power, continued to fly and make right aileron and rudder inputs to get back over the runway. The airplane impacted the ground and came to rest inverted.

The airplane sustained substantial damage to the fuselage, empennage and wings.

The automated weather observation system at the accident airport reported, that about the time of the accident, the wind was from 090ø at 4 knots. The pilot was departing on runway 18.

National Transportation Safety Board - Aircraft Accident/Incident Database

Accident Rpt# CEN18LA080	01/18/2018 1605 MST	Regis# N907T	Erie, CO	Apt: Erie Municipal EIK
Acft Mk/Mdl TOMLINSON TRACY L TUKAN-NO SERIES	Acft SN 11760	Acft Dmg: SUBSTANTIAL	Rpt Status: Prelim	Prob Caus: Pending
Eng Mk/Mdl AMA/EXPR UNKNOWN ENG	Acft TT 742	Fatal 0	Ser Inj 0	Flt Conducted Under: FAR 091
Opr Name: ARTHUR F PANSING	Opr dba:	Aircraft Fire: NONE	AW Cert: LTSP	

Events

1. Landing - Loss of control in flight
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Narrative

On January 18, 2018, about 1605 mountain standard time, a Tukan Trike experimental weight-shift special light sport aircraft, N907T, registered to a private individual, sustained substantial damage following a loss of control during landing at the Erie Municipal Airport (EIK), Erie, Colorado. The solo student pilot sustained minor injuries. Visual meteorological conditions prevailed throughout the area and a flight plan was not filed. The personal student solo flight was being conducted under the provisions of Federal Code of Regulations Part 91. The flight originated from EIK at 1600.

According to the on ground flight instructor, he had flown with the student pilot and conducted seven landings and takeoffs. The aircraft was operating normally during the flight. After the dual instruction, the aircraft was taxied back to a hangar where the instructor pilot explained single pilot operations to the student. The student pilot then took off and entered the landing pattern at EIK. The instructor pilot observed that the student seemed to lose control on his first final approach and executed a go-around. On the second approach, the instructor observed the aircraft on final and the wing struck the ground. The aircraft spun and came to rest inverted.

The aircraft wreckage was examined by an FAA inspector after the accident. No flight control anomalies were discovered.

National Transportation Safety Board - Aircraft Accident/Incident Database

Accident Rpt# CEN17LA236 06/18/2017 715 MDT Regis# N999WX Canon City, CO Apt: Fremont County 1V6
Acft Mk/Mdl WELLS JOHN L JR STOL CH 701-NO Acft SN 7-6078 Acft Dmg: SUBSTANTIAL Rpt Status: Factual Prob Caus: Pending
Fatal 0 Ser Inj 0 Flt Conducted Under: FAR 091
Opr Name: WELLS JOHN L JR Opr dba: Aircraft Fire: NONE
AW Cert: SPE

Summary

The commercial pilot reported that, during initial climb after takeoff, the amateur-built airplane's engine experienced a partial loss of power. As he attempted to return to the airport, the engine lost total power. He subsequently conducted a forced landing on rough terrain, during which the right wing and fuselage sustained damage.

Postaccident examination of the engine revealed that the fuel hose from the left wing tank had deteriorated from the inside, which would have restricted the flow of fuel to the engine and led to fuel starvation and the subsequent loss of engine power.

Cause Narrative

THE NATIONAL TRANSPORTATION SAFETY BOARD DETERMINED THAT THE CAUSE OF THIS OCCURRENCE WAS: Fuel starvation due to the deterioration of a fuel hose.

Events

1. Initial climb - Fuel starvation
2. Initial climb - Loss of engine power (total)
3. Emergency descent - Off-field or emergency landing
4. Landing - Collision with terr/obj (non-CFIT)

Findings - Cause/Factor

1. Aircraft-Aircraft systems-Fuel system-Fuel distribution-Damaged/degraded - C
2. Aircraft-Fluids/misc hardware-Fluids-Fuel-Fluid level - C
3. Environmental issues-Physical environment-Terrain-Rough terrain-Contributed to outcome

Narrative

On June 18, 2017, about 715 mountain daylight time, an amateur-built Wells STOL CH701 airplane, N999WX, sustained substantial damage to the fuselage and firewall during a forced landing to a field near Canon City, Colorado, after the airplane's engine lost power during initial climb after takeoff from the Fremont County Airport (1V6), Canon City, Colorado. The pilot received minor injuries. The airplane was registered to and operated by the pilot under the provisions of 14 Code of Federal Regulations Part 91 as a personal flight. Visual meteorological conditions prevailed for the flight, which was not operated on a flight plan. The flight was originating from 1V6 when the accident occurred.

The pilot reported that the airplane experienced a partial loss of engine power during initial climb about 6,500 feet msl. As he attempted to return to 1V6, the engine suddenly lost complete power. A forced landing was completed to rough terrain. The airplane incurred damage to the right wing and fuselage during the landing attempt. The pilot reported that after the accident he found that the fuel hose from the left fuel tank had deteriorated from the inside causing an obstruction to the normal flow of fuel.