

National Transportation Safety Board - Aircraft Accident/Incident Database

Accident Rpt# GAA17CA258	05/04/2017 1515 EDT	Regis# N991TC	Stevensville, MD	Apt: Bay Bridge Airport W29
Acft Mk/Mdl AUTOGYRO CALIDUS		Acft SN US-C00483	Acft Dmg: SUBSTANTIAL	Rpt Status: Factual Prob Caus: Pending
Eng Mk/Mdl ROTAX 914UL		Acft TT 18	Fatal 0 Ser Inj 0	Flt Conducted Under: FAR 091
Opr Name: DAVID M. ROGERS		Opr dba:		Aircraft Fire: NONE
				AW Cert: LTSP

Summary

The pilot of the gyrocopter reported that, during the takeoff roll, the rotor rpm was not increasing. He continued the takeoff and kept the gyrocopter on the ground to gain airspeed by not moving the stick to the full-aft position. He added that this was an "old existing airplane habit." Subsequently, during the takeoff, the gyrocopter developed a "rotor flap," and he lost directional control. The gyrocopter came to rest on its side to the left of the runway.

The pilot added that not having the stick full aft prevented the rotor rpm from increasing and that the appropriate corrective action would have been to apply full-aft stick.

The gyrocopter sustained substantial damage to the fuselage and rotors.

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

The gyrocopter's Flight Manual stated that, during the takeoff roll, the pilot must "bring the control stick fully aft."

Cause Narrative

THE NATIONAL TRANSPORTATION SAFETY BOARD DETERMINED THAT THE CAUSE OF THIS OCCURRENCE WAS: The pilot's improper takeoff procedure, which resulted in a loss of directional control during the takeoff.

Events

1. Takeoff - Loss of control on ground
2. Takeoff - Roll over

Findings - Cause/Factor

1. Personnel issues-Task performance-Use of equip/info-Use of policy/procedure-Pilot - C
2. Personnel issues-Action/decision-Action-Incorrect action performance-Pilot - C
3. Personnel issues-Task performance-Use of equip/info-Use of equip/system-Pilot - C
4. Aircraft-Aircraft propeller/rotor-Rotorcraft flight control-Main rotor control-Incorrect use/operation - C
5. Aircraft-Aircraft oper/perf/capability-Performance/control parameters-Directional control-Not attained/maintained - C

Narrative

The pilot of the gyrocopter reported that during the takeoff roll, the rotor RPM was not increasing. He continued the takeoff and kept the gyrocopter on the ground to gain airspeed by not moving the stick in the full aft position. He added that this was an "old existing airplane habit". Subsequently, during the takeoff the gyrocopter developed a "rotor flap" and he lost directional control. The gyrocopter came to rest on its side to the left of the runway.

The pilot added that not having the stick full aft prevented the rotor RPM from increasing, and the appropriate corrective action would have been to apply full aft stick.

The gyrocopter sustained substantial damage to the fuselage and rotors.

The pilot reported that there were no pre-accident mechanical failures or malfunctions with the gyrocopter that would have precluded normal operation.

The Gyrocopter's Flight Manual states that during the takeoff roll, the pilot must "bring the control stick fully aft".

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Accident Rpt# GAA17CA420 07/17/2017 2000 CDT Regis# N445X Lone Rock, WI Apt: Tri-county Rgnl LNR
Acft Mk/Mdl COSTRUZIONI AERONAUTICHE TECNA Acft SN 119 Acft Dmg: SUBSTANTIAL Rpt Status: Prelim Prob Caus: Pending
Fatal 0 Ser Inj 0 Flt Conducted Under: FAR 091
Opr Name: PORTER MICHAEL Opr dba: Aircraft Fire: NONE

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Accident Rpt# GAA17CA314	05/30/2017 1635	Regis# N533AL	Logan, UT	Apt: Logan-cache LGU
Acft Mk/Mdl CUB CRAFTERS INC CC19-180		Acft SN 20	Acft Dmg: SUBSTANTIAL	Rpt Status: Factual Prob Caus: Pending
Eng Mk/Mdl LYCOMING O-360		Acft TT 16	Fatal 0 Ser Inj 0	Flt Conducted Under: FAR 091
Opr Name: DOUGLAS STOTLAR		Opr dba:		Aircraft Fire: NONE
				AW Cert: STN

Summary

The pilot of the tailwheel-equipped airplane reported that, during the landing roll, the airplane decelerated and began drifting to the right. He added that he applied left rudder, but the airplane continued to the right, so he added more left rudder. The airplane ground looped to the left, the right main landing gear collapsed, and the right wing impacted the ground.

The airplane sustained substantial damage to the right aileron and empennage.

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

The pilot reported that the initial lack of rudder response was due to the placement of his feet on the rudder pedals. His feet were too high on the pedal, "causing the toe brakes to inadvertently be engaged during landing."

Cause Narrative

THE NATIONAL TRANSPORTATION SAFETY BOARD DETERMINED THAT THE CAUSE OF THIS OCCURRENCE WAS: The pilot's failure to maintain directional control during the landing roll due to the high placement of his feet on the rudder pedals, which led to the inadvertent application of the brakes.

Events

1. Landing-landing roll - Loss of control on ground
2. Landing-landing roll - Attempted remediation/recovery
3. Landing-landing roll - Landing gear collapse

Findings - Cause/Factor

1. Aircraft-Aircraft oper/perf/capability-Performance/control parameters-Directional control-Not attained/maintained - C
2. Personnel issues-Task performance-Use of equip/info-Aircraft control-Pilot - C
3. Aircraft-Aircraft systems-Flight control system-Rudder control system-Unintentional use/operation - C
4. Personnel issues-Action/decision-Action-Incorrect action performance-Pilot

Narrative

The pilot of the tailwheel-equipped airplane reported that during the landing roll the airplane decelerated and began drifting to the right. He added that he applied left rudder, but the airplane continued to the right, so he added more left rudder. The airplane ground looped to the left, the right main landing gear collapsed, and the right wing impacted the ground.

The airplane sustained substantial damage to the to the right aileron and empennage.

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

The pilot reported that the initial lack of rudder response was due to the placement of his feet on the rudder pedals. His feet were too high on the pedal "causing the toe brakes to inadvertently be engaged during landing".

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Accident Rpt# ERA15LA230	06/01/2015 1905 CDT	Regis# N59AT	Panama City Bea, FL	Apt: N/a
Acft Mk/Mdl SEA & SKY INC DBA KRUCKER ACFT	Acft SN 20114	Acft Dmg: SUBSTANTIAL	Rpt Status: Factual	Prob Caus: Pending
Eng Mk/Mdl ROTAX 912ULS	Acft TT 15	Fatal 0	Ser Inj 1	Flt Conducted Under: FAR 091
Opr Name: ANDREW E. REDMOND	Opr dba:		Aircraft Fire: NONE	AW Cert: LTSP

Summary

The commercial airplane pilot reported that, during his first solo flight in his new weight-shift-controlled aircraft, he experienced an unstable feeling when he started a right turn. While attempting to roll the aircraft straight and level, it rolled into an uncontrollable, "steep" left turn and entered an aerodynamic stall before crashing into the water below. It is likely that when the pilot attempted to correct the initial roll to the right, the aircraft rolled past 90° of bank, to a condition where the pendulum stability, which kept the fuselage below the wing, ceased to act, resulting in the loss of control. Postaccident examination of the aircraft revealed that several of the hardware components attaching the wing to the trike had fractured; however, examination of the fractures revealed that they all exhibited features consistent with overstress due to impact, and no evidence of preexisting damage was observed.

Cause Narrative

THE NATIONAL TRANSPORTATION SAFETY BOARD DETERMINED THAT THE CAUSE OF THIS OCCURRENCE WAS: The pilot's loss of aircraft control, which resulted in an aerodynamic stall.

Events

1. Enroute-climb to cruise - Loss of control in flight

Findings - Cause/Factor

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

Narrative

On June 1, 2015, about 1905 central daylight time, a Sea & Sky INC Cygnet weight-shift-control aircraft, N59AT, was substantially damaged when it impacted the water near Panama City, Florida. The commercial pilot was seriously injured. The aircraft was registered to and operated by the pilot under the provisions of 14 Code of Federal Regulations Part 91. Visual meteorological conditions prevailed and no flight plan had been filed for the personal flight, which departed Panama City Beach, Florida at 1905.

According to the pilot, this was his first solo flight in his new aircraft after a sign off by his instructor. He stated that after takeoff, he climbed the to approximately 300 feet and leveled off. He began a turn to the right and noted an "unstable" feeling in the flight controls. He attempted to roll the aircraft to straight and level, it continued to the left and rolled into an uncommanded "steep" left banking turn. The pilot was unable to maintain control of the aircraft; subsequently it entered an aerodynamic stall and impacted the water.

According to the pilot's son he watched as the aircraft departed St. Andrews Bay. He said that as the aircraft began a slight right turn, it began to oscillate from left to right while descending. At about 50 feet above the bay the aircraft turned to the right in a 90° bank before "crashing" into bay. A review of a video recording revealed that the pilot was in stable flight prior to the accident. In a statement made to the NTSB, the pilot's son assisted with the postaccident recovery of the aircraft and noted the wing assembly was separated from its fuselage attachment point, and was being held on by cables before the aircraft was recovered.

A Federal Aviation Administration inspector examined the airplane after the accident. According to the inspector, the wing and fuselage (trike) were buckled, and the aluminum hang block attachment and three attachment bolts had fractured. The hang block assembly was forwarded to the NTSB Materials Laboratory for further examination.

The hang block assembly consisted of a strap and saddle. The saddle was attached to the strap by three flush-head bolts on each side of the strap. The strap for the saddle was fractured on both sides through the three saddle attachment holes on the right side and the forward saddle attachment hole on the left side. Bolts for attaching the right side of the saddle to the strap were sheared. The lower fracture surfaces through the strap at the left and right had an overall twisting deformation, and both fracture surfaces had a uniform rough matte gray appearance consistent with ductile overstress fracture. The saddle attachment bolts on the right side of the saddle were fractured. The fracture features and associated deformation and contact damage were consistent with shear fracture.

The United Kingdom's Air Accidents Investigations Branch (AAIB) commissioned a safety study of the tumble mode, a peculiarity of weight-shift-control aircraft. This safety study described the inherent spiral instability of the aircraft type. According to the report, "Many weightshift microlight aircraft are spirally unstable (particularly at higher power settings); thus, an initial small bank angle is likely to increase without (unless horizon reference is available) the pilot's ability to

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control it. The aircraft would roll, potentially past 90° of bank to a condition where the pendulum stability which keeps the trike below the wing ceases to act - inevitably causing some loss of control."

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Accident Rpt# WPR16FA036	12/10/2015 1347 MST	Regis# N307AB	Hurricane, UT	Apt: N/a
Acft Mk/Mdl BARNETT ALLEN S RV7-UNDESIGNAT	Acft SN 73395	Acft Dmg: SUBSTANTIAL	Rpt Status: Factual	Prob Caus: Pending
Eng Mk/Mdl ECI/TITAN IO-360-A4H9N	Acft TT 259	Fatal 2 Ser Inj 0	Flt Conducted Under: FAR 091	
Opr Name: ACKERMAN SHAWN	Opr dba:		Aircraft Fire: NONE	
			AW Cert: SPE	

Summary

The airline transport pilot was conducting a local personal flight in the experimental amateur built airplane, with one passenger on board. Several witnesses located near the accident site reported that they heard the airplane's engine and that it sounded like it was making power changes. The witnesses added that they then saw airplane debris floating in the air. One witness stated that the engine was running during the entire descent and that he saw the airplane spiraling and descending in a cork-screw type maneuver. Another witness reported seeing the airplane inverted at a low altitude just before impact.

Postaccident examination of the airplane revealed damage to the horizontal stabilizers and elevators that was consistent with a downward failure in positive overload. The loads required to fail the horizontal stabilizers and elevators cannot be generated from normal flight or control movements. Such failures would have required an abrupt pull back on the stick and corresponding movement of the elevator to a trailing-edge-up position, at speeds greater than the airplane's maneuvering speed. Failure of the horizontal tail first would have caused the airplane to pitch down rapidly, producing air loads on the upper surface of the wing that were sufficient to fail them in negative overload. The damage observed on the wings was consistent with a downward failure in negative overload. Additionally, there were no indications of any pre-existing cracks or anomalies with the horizontal stabilizers, elevators, or wing structures and no pre-accident anomalies were observed that would have precluded normal control of the airplane.

A review of the weather information indicated that there were likely low-level winds gusting from 26 to 46 knots at the time of the accident and that moderate-to-severe turbulence likely existed at the accident site. The weather conditions likely contributed to the in-flight breakup by either aggravating a flight maneuver or preventing a recovery from a loss of airplane control.

Although doxylamine was detected in the pilot's liver it was not detected in the blood; therefore, it is unlikely that it was causing any performance decrements that would have affected the pilot at the time of the accident.

Cause Narrative

THE NATIONAL TRANSPORTATION SAFETY BOARD DETERMINED THAT THE CAUSE OF THIS OCCURRENCE WAS: The pilot's abrupt flight control inputs, likely above the maneuvering speed, in severe winds and turbulence conditions, which resulted in an in-flight breakup.

Events

1. Enroute - Aircraft structural failure
2. Uncontrolled descent - Part(s) separation from AC

Findings - Cause/Factor

1. Personnel issues-Task performance-Use of equip/info-Use of equip/system-Pilot - C
2. Aircraft-Aircraft oper/perf/capability-Performance/control parameters-(general)-Not attained/maintained - C
3. Environmental issues-Conditions/weather/phenomena-Turbulence-(general)-Effect on operation - C
4. Environmental issues-Conditions/weather/phenomena-Turbulence-(general)-Effect on equipment - C
5. Environmental issues-Conditions/weather/phenomena-Wind-Gusts-Effect on operation - C

Narrative

HISTORY OF FLIGHT

On December 10, 2015, about 1347 mountain standard time, an experimental amateur built, RV-7 airplane, N307AB, experienced an in-flight break up and then impacted terrain about 3 miles west of General Dick Stout Field Airport, Hurricane, Utah. The airline transport pilot and passenger were fatally injured, and the airplane sustained substantial damage. The airplane was registered to and was being operated by the pilot as a Title 14 Code of Federal Regulations Part 91 personal flight. Visual meteorological conditions existed near the accident site about the time of the accident, and no flight plan had been filed. The local flight departed from an unknown airport at an undetermined time.

Several witnesses located near the accident site stated that they heard the airplane's engine and that it sounded like it was making power changes. The witnesses added that they saw airplane debris floating in the air. One witness stated that the engine was running during the entire descent and that he also observed the airplane spiraling and descending in a cork-screw type maneuver. Another witness reported seeing the airplane inverted at a low altitude just

before impact.

PERSONNEL INFORMATION

The pilot, held an airline transport pilot certificate with airplane multi-engine land, single-engine land, instrument, and instructor single-engine land ratings. The pilot was issued a first-class Federal Aviation Administration airman medical certificate on October 22, 2015, with the limitation that he must have glasses available for near vision. The pilot reported on his most recent medical certificate application that he had accumulated 17,359 total flight hours, 403 flight hours of which were accumulated in the previous 180 days.

AIRCRAFT INFORMATION

The two-seat, low-wing, fixed-gear airplane, was assembled in 2011, and it was issued an airworthiness certificate certified for aerobatic maneuvers in March 2011. It was powered by an experimental 180-horsepower ECI/Titan IO-360 reciprocating engine. The engine was equipped with a Whirlwind 200RV propeller. The last documented inspection was a conditional inspection that was completed on May 15, 2015, at an airframe time of 258.9 hours.

The airplane's manufacturer website listed the maximum load factor as positive +6 g and a minimum load factor as -3 g. Additionally, the Pilot's Operating Handbook lists the maneuvering speed (Va) as 142 mph. In the remarks, it stated, "do not make full control movements above this speed. Full elevator deflection will result in a 6g load at this speed." Any speed greater than Va with full control application could result in g-loads that exceeded the design limits.

METEOROLOGICAL INFORMATION

The 1355 recorded weather observation at Saint George Regional Airport, Saint George, Utah, located about 12 miles west-southwest from the accident site, reported calm wind, visibility 10 statute miles, clear skies, temperature 12ø C, dew point -2ø C, and an altimeter setting of 29.87 inches of mercury.

The accident site was located between a cold front to the northwest and a high-pressure area to the southwest, in an area of strong-pressure gradient. A model sounding, which included a wind profile, for the area over the accident site about the time of the accident, estimated that the surface horizontal wind speed was estimated to be 220ø at 8 knots, with winds increasing in speed with height and veering to the west. The mean 0-to-18,000 ft mean sea level (msl) winds were from 250ø at 52 knots. The model supported light-to-moderate clear air turbulence from 6,400 through 8,000 ft msl, and mountain wave development from 10,000 to 12,000 ft msl.

Pilot reports noted evidence of mountain wave activity in the region but with moderate-to-severe turbulence near the accident site; at 6,500 ft msl, consistent with the model sounding. An AIRMET for moderate turbulence below 18,000 ft, was active over the accident site at the accident time. No SIGMET was active for the accident site at the accident time.

WRECKAGE AND IMPACT INFORMATION

The airplane wreckage was located about 4.2 miles southwest of Hurricane, Utah, on flat sagebrush-covered terrain on top of a mesa. The debris path was about 1,460 ft long and 450 ft wide. All major components of the airplane were located in the debris path.

The main airplane wreckage was located almost at the northern extent of the debris field and included the fuselage, engine, right wing, half of the left wing, a majority of the left and right elevators, and the lower half of the rudder. The vertical stabilizer with the upper half of the rudder attached was located at the southern extent of the debris field, located about 1,420 ft south-southwest of the main wreckage. The left and right horizontal stabilizers were located about 850 ft and 790 ft, respectively, south of the main wreckage. The left aileron was located about 430 ft south-southwest of the main wreckage, and the left outboard wing was located about 320 ft south-southwest of the main wreckage.

The main wreckage was found inverted. There were no noticeable ground scars leading up to the wreckage. The fuselage was intact, but the upper half was crushed. The canopy frame was separated from the airframe and located about 55 ft northeast of the main wreckage. Most of the acrylic canopy was fractured from the frame and found in many pieces in the debris field. The engine remained attached to the fuselage. One of the composite propeller blades was fractured from the hub and the other blade was missing the tip portion. Debris consistent with propeller material was found around the main wreckage. The examination of the engine revealed no evidence of mechanical malfunctions or failures that would have precluded normal operation. The main landing gear

remained attached to the lower fuselage, and there was some deformation at the attachment points.

The entire right wing remained attached to the fuselage with the flap and aileron attached. The right flap was in the "up" position. The outboard half of the right wing was deformed downward about 15° to 20° at the flap/aileron junction, located about 57 inches outboard of the wing attachment point. The upper and lower wing skins were buckled around the area where the wing was deformed downward. The right fiberglass wingtip remained attached to the wing but was splayed open at the trailing edge.

The inboard half of the left wing remained attached to the fuselage with the flap attached. The left flap was in the "up" position. The outboard half of the left wing had separated at the flap/aileron junction located about 57 inches outboard of the wing attachment point. The main spar fractured at the location where the upper and lower spar caps undergo a net section decrease from inboard to outboard. The outboard half of the left wing was mostly intact with minimal damage noted.

MEDICAL AND PATHOLOGICAL INFORMATION

The Utah Department of Health, Office of the Medical Examiner, conducted an autopsy on the pilot. The medical examiner determined that the cause of death was "blunt force trauma."

The FAA's Bioaeronautical Sciences Research Laboratory, Oklahoma City, Oklahoma, performed toxicological testing specimens from the pilot. Testing results were negative for carbon monoxide, cyanide, and volatiles. The testing detected doxylamine in the liver but not in the blood and ibuprofen in the blood.

Doxylamine is an over-the-counter antihistamine medication that can be used in combination with decongestants and other medications to relieve sneezing, runny nose, and nasal congestion caused by the common cold and can be sedating. Ibuprofen is used to reduce fever and to relieve minor aches and pains from headaches, muscle aches, arthritis, the common cold etc.

TESTS AND RESEARCH

Structures Examination

A postaccident examination of the inboard and outboard wing sections at the fracture location revealed that the fracture exhibited damage and deformation consistent with the separation of the outboard portion of the wing in a downward direction. The horizontal stabilizer forward spar fractured about 2 inches outboard of the side of the fuselage on both sides. Both of the horizontal stabilizer spar caps were deformed down and aft at the fracture location. The elevators were deformed down and aft matching the spar deformation.

The left and right horizontal stabilizers were found in the debris field. The outboard elevator hinges remained attached to both stabilizers and the hinges were pulled from the elevators. About 18 inches of the outboard portion of horizontal stabilizer rear spar on each side remained installed in the horizontal stabilizers. The upper and lower skins separated from the remainder of the rear spar along the rivet lines. There was buckling damage on the lower skin of both horizontal stabilizers consistent with the stabilizers separating downward.

Control continuity was established from the cockpit controls to the elevators and the right aileron. The left aileron controls cables were fractured and had a splayed, broom-strawed appearance, consistent with tension overload. The rudder cables were jammed somewhere in the fuselage, and control continuity could not be established, but the cables remained attached at the rudder and the pedals.

All the fractures exhibited a dull, grainy appearance consistent with overstress separation. There was no evidence of progressive or pre-existing fractures on any of the parts.

Electronic Devices

No flight data for the accident flight could be recovered from the electronic devices found in the wreckage. However, a GoPro Hero 4 camera, which had sustained significant impact damage, revealed two files recorded on previous flights in which the accident airplane performed an aileron roll to the right.

Radar Data:

A review of the radar track from commercially available sources revealed two tracks that were consistent with the accident airplane. The first track was 17 minutes long and ended at 1332 when the airplane was at 6,150 ft. Altitudes throughout the track varied from 6,150 to 9,350 ft, and the groundspeed varied between 24 and 168 knots. Most of the first half of the track show the airplane climbing, and the second half of the track shows the airplane descending. The track shows the airplane flying west and then performing a couple of circling maneuvers and in slow flight. The airplane then turned south and shortly thereafter, it makes a right northerly turn.

The second track, which may be associated with the accident airplane, started at 1336 when the airplane was at 6,625 ft. The data only shows 1 minute of flight. The heading is nearly south, and the groundspeed range is between 127 and 133 knots.

Weight and Balance

The distribution of the airplane contents throughout the debris field prevented an accurate weight and balance assessment and the airplane's most recent weight and balance records were not located. Therefore, an estimated weight and balance calculation was conducted. According to the airplane's kit manufacturer, the airplane had a maximum factory basic weight of 1,114 lbs and a useful load of 686 lbs. The medical examiner reported that the total weight of the occupants was 306 lbs. Assuming a total fuel load of 42 gallons, the airplane would have been about 128 lbs below its maximum gross weight of 1,800 lbs at the time of the accident.

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Accident Rpt# GAA17CA251 04/30/2017 1715 Regis# N164JB Wheatland, WY Apt: N/a
Acft Mk/Mdl BENDER JOSEPH KIT ROTOWAY-NO Acft SN 6763 Acft Dmg: SUBSTANTIAL Rpt Status: Factual Prob Caus: Pending
Eng Mk/Mdl ROTORWAY Acft TT 298 Fatal 0 Ser Inj 0 Flt Conducted Under: FAR 091
Opr Name: BEN HILTY Opr dba: Aircraft Fire: NONE
AW Cert: SPE

Summary

The pilot of the experimental amateur-built helicopter, which had a clockwise rotating main rotor blade, reported that he took off from private property with a right crosswind. He added that, when the helicopter reached 20 to 30 knots, about 50 ft above the ground, he turned southwest, which resulted in a right quartering tailwind. He further added that, as he made the turn, he applied right antitorque pedal, but "nothing was there." The pilot reported that he subsequently decided to "set it down" in a field ahead and that, about 3 to 5 ft above the ground, the "tail started to come around counter-clockwise." During the touchdown, the right skid caught on a hidden car muffler, and the helicopter rolled onto its right side and impacted terrain.

During a postaccident interview, the pilot reported that he "lost tail rotor effectiveness," and he encountered "too much wind for this aircraft [helicopter]."

The main rotor and tailboom sustained substantial damage.

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

The pilot reported that the wind was from the north and about 15 knots. The nearest automated weather observation station (AWOS), 41 nautical miles (nm) from the accident site, recorded that, about the time of the accident, the wind was from 350° at 14 knots, gusting to 26 knots. About 20 minutes before the accident, the AWOS recorded a peak wind from 340° at 30 knots. The density altitude at the AWOS location was 5,332 ft.

The Federal Aviation Administration Helicopter Flying Handbook stated, in part: "Loss of tail rotor effectiveness (LTE) or an unanticipated yaw is defined as an uncommanded, rapid yaw towards the advancing blade which does not subside of its own accord. It can result in the loss of the aircraft if left unchecked." The handbook further stated, in part: "At higher altitudes where the air is thinner, tail rotor thrust and efficiency are reduced. Because of the high density altitude, powerplants may be much slower to respond to power changes. When operating at high altitudes and high gross weights, especially while hovering, the tail rotor thrust may not be sufficient to maintain directional control, and LTE can occur."

It is likely that the high-density altitude and the pilot's positioning of the helicopter such that it resulted in a right quartering tailwind reduced the tail rotor effectiveness of the helicopter and contributed to the pilot's inability to maintain helicopter control during the hover to landing.

Cause Narrative

THE NATIONAL TRANSPORTATION SAFETY BOARD DETERMINED THAT THE CAUSE OF THIS OCCURRENCE WAS: The pilot's decision to operate the helicopter in gusting wind and high-density altitude conditions and his positioning of the helicopter such that it resulted in a right quartering tailwind, which resulted in a loss of helicopter control due to a loss of tail rotor effectiveness.

Events

1. Initial climb - Other weather encounter
2. Landing-flare/touchdown - Loss of tail rotor effectiveness
3. Landing-flare/touchdown - Dynamic rollover
4. Landing-flare/touchdown - Collision with terr/obj (non-CFIT)

Findings - Cause/Factor

1. Personnel issues-Task performance-Use of equip/info-Aircraft control-Pilot - C
2. Personnel issues-Action/decision-Info processing/decision-Decision making/judgment-Pilot - C
3. Environmental issues-Conditions/weather/phenomena-Temp/humidity/pressure-High density altitude-Decision related to condition - C
4. Aircraft-Aircraft oper/perf/capability-Performance/control parameters-Prop/rotor parameters-Not attained/maintained - C
5. Environmental issues-Conditions/weather/phenomena-Wind-Gusts-Decision related to condition - C
6. Environmental issues-Conditions/weather/phenomena-Wind-Tailwind-Effect on operation
7. Environmental issues-Conditions/weather/phenomena-Wind-Gusts-Effect on operation
8. Environmental issues-Conditions/weather/phenomena-Temp/humidity/pressure-High density altitude-Decision related to condition
9. Environmental issues-Physical environment-Object/animal/substance-Hidden/submerged object-Contributed to outcome

Narrative

The pilot of an experimental amateur-built helicopter, which had a clockwise rotating main rotor blade, reported that he took off from private property with a right crosswind. He added that when the helicopter reached 20-30 knots, about 50 ft. above ground, he turned southwest, which resulted in a right quartering tailwind. He further added that as he made the turn, he applied right anti-torque pedal, but "nothing was there." Subsequently, the pilot reported that he decided to "set it down" in a field ahead, and about 3-5 ft. above the ground the "tail started to come around counter-clockwise." During the touchdown, the right skid caught on a hidden car muffler and the helicopter rolled onto its right side and impacted terrain.

During a postaccident interview, the pilot reported that he "lost tail rotor effectiveness," and he encountered "too much wind for this aircraft [helicopter]."

The main rotor and tail boom sustained substantial damage.

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

In an interview with the National Transportation Safety Board investigator-in-charge, the pilot reported that the wind was from the north, about 15 knots. An automated weather observation station (AWOS), 41 nautical miles (NM) from the accident site, about the time of the accident, recorded wind 350ø at 14 knots, gusting to 26 knots. The AWOS recorded a peak wind, about 20 minutes before the accident, 340ø at 30 knots. The density altitude, at the nearest airport with a recorded AWOS, 41 NM from the accident site, was 5,332 ft.

The Federal Aviation Administration Helicopter Flying Handbook stated in part: Loss of tail rotor effectiveness (LTE) or an unanticipated yaw is defined as an uncommanded, rapid yaw towards the advancing blade which does not subside of its own accord. It can result in the loss of the aircraft if left unchecked." The handbook further stated in part: "At higher altitudes where the air is thinner, tail rotor thrust and efficiency are reduced. Because of the high density altitude, powerplants may be much slower to respond to power changes. When operating at high altitudes and high gross weights, especially while hovering, the tail rotor thrust may not be sufficient to maintain directional control, and LTE can occur."

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Accident Rpt# ERA15LA381 08/07/2015 1400 EDT Regis# N330B Charlotte, VT Apt: Pvt NONE
Acft Mk/Mdl BROWN JAMES W ZENITH STOL CH 750-NAcft SN 75-7469 Acft Dmg: SUBSTANTIAL Rpt Status: Factual Prob Caus: Pending
Eng Mk/Mdl CONTINENTAL O-200-A Acft TT 55 Fatal 0 Ser Inj 0 Flt Conducted Under: FAR 091
Opr Name: BROWN JAMES W Opr dba: Aircraft Fire: NONE
AW Cert: SPE

Summary

The commercial pilot of the experimental amateur-built airplane stated that, during landing on the turf runway with an 8-knot crosswind, the nose landing gear collapsed and the airplane nosed over and came to rest inverted. Examination of the nose landing gear fork and doubler revealed that the materials and construction met manufacturer's specifications. Additionally, the assembly exhibited kinematic deformation, indicative of side loading. Therefore, it is likely that the pilot failed to adequately compensate for the crosswind conditions during landing, which resulted in the side loading of the nose landing gear and its subsequent collapse.

Cause Narrative

THE NATIONAL TRANSPORTATION SAFETY BOARD DETERMINED THAT THE CAUSE OF THIS OCCURRENCE WAS: The pilot's inadequate compensation for a crosswind during landing, which resulted in a side load application to the nose landing gear and its subsequent collapse.

Events

1. Landing-landing roll - Landing gear collapse

Findings - Cause/Factor

1. Personnel issues-Task performance-Use of equip/info-Aircraft control-Pilot - C
2. Environmental issues-Conditions/weather/phenomena-Wind-Crosswind-Response/compensation - C
3. Aircraft-Aircraft systems-Landing gear system-Nose/tail landing gear-Capability exceeded - C
4. Aircraft-Aircraft systems-Landing gear system-Nose/tail landing gear-Failure - C

Narrative

On August 7, 2015, about 1400 eastern daylight time, an experimental amateur-built Zenith STOL CH 750, N330B, was substantially damaged by a nose landing gear collapse and nose-over event after landing at a private grass airstrip in Charlotte, Vermont. The commercial pilot and a passenger were not injured. Visual meteorological conditions prevailed, and no flight plan was filed for the personal flight, which was conducted under the provisions of Title 14 Code of Federal Regulations Part 91.

According to the builder/owner of the airplane, the pilot and the passenger were flying the airplane because the passenger was interested in purchasing it.

According to the pilot, he established the airplane on a "normal" approach for landing at the airplane owner's private airstrip, after picking up the passenger and completing a short flight in the local area. The pilot reported the runway was oriented 190 degrees, and that there was a crosswind from 270 degrees at 8 knots. Upon touchdown, the nose landing gear fork "deformed," the wheel locked, and dug into the turf. The airplane then nosed over. The wings, firewall, and vertical stabilizer were substantially damaged.

A witness familiar with the airplane said she saw the landing, but not the nose-over event. She said the landing appeared "a little faster than I had seen before."

The pilot held a commercial pilot certificate with ratings for airplane single engine land, multiengine land and instrument airplane. His most recent second-class medical certificate was issued on June 16, 2015. The pilot reported 2,130 total hours of flight experience, of which 46 hours were in the accident airplane make and model.

The two-seat, single-engine, high-wing airplane was manufactured in 1974 and was equipped with a Continental O-200 series engine. Its most recent annual inspection was completed on September 18, 2014. At the time of the accident, the airplane had accrued 54.8 total aircraft hours.

The pilot suggested that because the replacement nose landing gear assembly received after the accident was "more robust" than the originally-installed assembly, the original design was "too lightweight."

The nose landing gear fork and doubler assembly was examined in the NTSB Materials Laboratory in Washington, DC. Examination revealed that the material and the dimensions of the assembly met the specifications of the manufacturer's engineering drawings. Additionally, the "kinematic deformation" of the doubler assembly was consistent with a side-load application.

National Transportation Safety Board - Aircraft Accident/Incident Database

Accident Rpt# WPR17LA148	07/10/2017 745 MST	Regis# N273DB	New River, AZ	Apt: N/a
Acft Mk/Mdl CHARLES J NORRIS ARION		Acft SN 171	Acft Dmg: SUBSTANTIAL	Rpt Status: Prelim Prob Caus: Pending
Eng Mk/Mdl JABIRU 3300			Fatal 0 Ser Inj 0	Flt Conducted Under: FAR 091
Opr Name: NORRIS CHARLES J		Opr dba:		Aircraft Fire: NONE
				AW Cert: SPX

Events

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

Narrative

On July 10, 2017, about 0745 mountain standard time, an experimental light sport Arion Lightning airplane, N273DB, was substantially damaged in a forced off-airport landing near New River, Arizona. The private pilot was uninjured. The personal flight was conducted under the provisions of Title 14 Code of Federal Regulations Part 91. Visual meteorological conditions prevailed.

The pilot was also the builder and owner of the airplane, which was based at Glendale Municipal Airport (GEU) Glendale, Arizona. The pilot had changed the propeller pitch and right wing incidence on July 7, and the purpose of the flight was to assess those changes. The pilot fueled the airplane to a total quantity of about 30 gallons. The engine started normally, and after the engine temperatures reached appropriate values, the pilot conducted an engine runup before beginning his taxi out. That runup was normal. The pilot then taxied to runway 1, where he conducted a second runup, which again was normal. While awaiting takeoff clearance, the pilot noticed that the cylinder head temperature (CHT) on the No. 3 cylinder was higher than both normal and the other five cylinders, but still well below its maximum limit. When the airplane began its takeoff roll, the No. 3 cylinder CHT began decreasing, and aligned with the other CHT values during the climbout.

The pilot conducted the climbout at 2,660 rpm, and leveled off temporarily at 2,500 feet. Shortly thereafter, the pilot increased the rpm to 2,800 for a climb to a higher altitude. He noticed that the engine "did not feel as if it were operating smoothly," and switched the fuel selector from the left tank to the right tank. As the airplane was passing through 5,980 feet, the pilot felt a loss of power, and the rpm decreased to 1,450. An instrument scan indicated to the pilot that the engine was still running, but manipulation of the throttle did not result in any rpm changes. The pilot leveled off and began a right turn back to the southwest, towards Deer Valley Airport (DVT) Deer Valley, Arizona. He unsuccessfully attempted to contact DVT air traffic control tower, changed his transponder code to 7700, and began searching for a suitable landing site. He also slowed to best glide speed, and verified that the ignition switch was set to the 'BOTH' position. The pilot initially set up for a landing on a plateau, and during his turn from base to final, the rpm decreased to about 1,000.

The airplane was going too fast to land on the plateau, so the pilot selected a new landing site just beyond the plateau. He added full flaps, turned off the fuel, and landed on the undulating desert terrain. The landing gear collapsed, the propeller struck the ground, and the airplane slid to a stop. The pilot shut off all the switches, except for the emergency locator transmitter (ELT), which had activated. He exited the airplane, called his wife and then the owner of the local facility that he used to build the airplane, in order to begin the airplane recovery process. A local resident drove up to provide assistance. He and the pilot collected some debris, and then the pilot called the DVT manager to notify him of the accident, who then contacted the FAA and NTSB. Several first responder vehicles and then a Phoenix Police helicopter arrived, and during the discussions, the pilot was asked to shut off the ELT, which he did. The airplane was recovered later that day to a secure facility for future examination. About 25 gallons of fuel were obtained from the airplane fuel tanks during the recovery process.

According to pilot, he had purchased the airframe as a kit, along with a brand new, pre-assembled Jabiru 3300 series engine. He completed construction of the airplane at a dedicated build center near Phoenix in 2016. The pilot reported that the airplane and engine had accumulated about 63 hours total time (TT) in service at the time of the accident. The pilot reported that he had about 60 hours TT in the airplane. He also reported that in January 2017, when the airplane had a TT of about 33 hours, due to a rough-running engine, he replaced the engine-driven fuel pump that was found to be internally damaged.

The 0753 automated weather observation at DVT, located about 17 miles south of the accident site, included variable winds at 3 knots, visibility 10 miles, clear skies, temperature 32 degrees C, dew point 14 degrees C, and an altimeter setting of 29.91 inches of mercury.

National Transportation Safety Board - Aircraft Accident/Incident Database

Accident Rpt# WPR17FA146	07/08/2017 1647 PDT	Regis# N2812	Point Mugu, CA	Apt: N/a
Acft Mk/Mdl CHICCO MIGUEL E QUICKSILVER SPORT	Acft SN 0001763	Acft Dmg: DESTROYED	Rpt Status: Prelim	Prob Caus: Pending
Eng Mk/Mdl ROTAX 503DCDI	Acft TT 3184	Fatal 1 Ser Inj 0	Flt Conducted Under: FAR 091	
Opr Name: WILLIAM WATSON	Opr dba:		Aircraft Fire: NONE	
			AW Cert: SPX	

Events

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

Narrative

On July 8, 2017, about 1647 Pacific daylight time, an experimental light sport Quicksilver Sport MXII aircraft, N2812, sustained unknown damage when it ditched in the Pacific Ocean just offshore near Pt. Mugu, California. The two pilots on board escaped the aircraft before it sank. One pilot successfully made it to shore, but the other pilot died before he reached the shore. The personal flight was conducted under the provisions of Title 14 Code of Federal Regulations Part 91. Visual meteorological conditions prevailed.

According to the surviving pilot, he and the other pilot were both members of the Sky Knights Flight Club, which owned the aircraft, and which was based at Camarillo Airport (CMA) Camarillo, California. Both he and the CFI were qualified by the club to operate the aircraft on their own. The club also owned two other experimental light sport aircraft. These were a Quicksilver Sport MXIIS aircraft, N1712, and a Quicksilver MXL single place aircraft, N7712. On the day of the accident, a total of five persons, including the two accident pilots, planned to fly the three aircraft in loose formation south to the shoreline, and then proceed southeast from there for a local flight.

The aircraft was equipped with side-by-side seats and dual controls. According to the surviving pilot, he took the left seat and the other pilot, who was a certificated flight instructor (CFI), took the right seat, but this was not an instructional flight. They departed CMA via the "southeast pattern," which is one of three pre-specified routes to exit the CMA traffic area. They departed with about 10 gallons of fuel on board, and the non-CFI was the pilot flying. He estimated that it took about 15 minutes to reach the shoreline, which was about 7 miles south of CMA. At the shoreline, the three aircraft turned left, which put the shoreline off their left side.

Shortly after they passed a large rock outcrop known as "Mugu Rock," the pilot felt a "skip" in the engine. At that time, they were cruising off the shoreline, above the ocean, at an altitude of about 300 feet. The skip repeated a few times, and the pilot then asked the CFI whether he felt it too; the CFI replied in the affirmative. They decided to reverse course and return to CMA, and also advised the other two aircraft of their situation and intentions. They reversed course, the engine irregularity continued, and the two agreed that they should climb to gain altitude in case the situation deteriorated. At that time the pilot advanced the throttle to climb, but the rpm only went to about 5,900, instead of the desired target value of 6,100 to 6,300 rpm. The pilot asked the CFI to advance his throttle to try to obtain more rpm. The CFI pushed on the throttle, but was unable to increase the rpm above 5,900. The rpm was then observed to be slowly decreasing. The aircraft could not climb, and then became unable to maintain altitude. Due to their different experience levels, they agreed that the CFI should now become the flying pilot, and a transfer of control was effected.

The rpm continued to decrease slowly, over a period of 4 to 5 minutes, and it became apparent that they would have to conduct a forced landing. Because the coastline was rocky, and Pacific Coast Highway was crowded with traffic, they realized that they would have to continue flight to reach a sandy beach, or else put the aircraft in the water.

The continued decrease in rpm and lack of a suitable landing location forced them to ditch just offshore. The aircraft touched down slowly and under control, and remained afloat. The two occupants both successfully escaped the aircraft, and stayed with the aircraft until it began to sink. They then began swimming to shore, which was about 200 feet away. The pilot was ahead of the CFI, and they maintained verbal contact as they made their way to shore. The pilot kept verbally checking on the CFI; initially the CFI said he was fine, but later during the swim the CFI said that he was "getting tired." The pilot reached the shore and climbed out onto a rock, and then turned to see that the CFI was unresponsive and face down in the water. A bystander swam to and pulled the CFI from the water, but the CFI was unable to be resuscitated by the pilot and bystander, or by the paramedics who arrived shortly thereafter.

Federal Aviation Administration (FAA) information indicated that the aircraft was manufactured in 2001, and was equipped with a Rotax 503 DCDI series engine. Review of the maintenance records indicated that the most recent annual condition inspection was completed in January 2017, when the airframe had a total time (TT) in service of about 3,111 hours, and the engine had a time since major overhaul of 349 hours.

National Transportation Safety Board - Aircraft Accident/Incident Database

Photographs showed that the aircraft appeared to remain intact after it impacted, and then submerged in, the water. The morning after the accident, the aircraft was discovered to have been washed ashore. As a consequence of the rocky coast and wave action, the airframe and engine incurred significant damage. The aircraft was recovered later that morning, and transported to CMA for examination by NTSB and FAA personnel.

The 1656 automated weather observation from Point Mugu Naval Air Station, located about 3 miles northwest of the accident site, included winds from 260 degrees at 8 knots, visibility 9 miles, few clouds at 6,500 feet, temperature 25 degrees C, dew point 17 degrees C, and an altimeter setting of 29.81 inches of mercury.

National Transportation Safety Board - Aircraft Accident/Incident Database

Accident Rpt# CEN17LA251	07/02/2017 1430 CDT	Regis# N2463H	Ponca City, OK	Apt: PRIV
Acft Mk/Mdl CODY HAWKINS JA30 SUPERSTOL-NO	Acft SN JA483-1-16	Acft Dmg: SUBSTANTIAL	Rpt Status: Prelim	Prob Caus: Pending
Eng Mk/Mdl ROTAX 914 UL2-01	Acft TT 56	Fatal 0	Ser Inj 0	Flt Conducted Under: FAR 091
Opr Name: PRIVITE INDIVIDUAL	Opr dba:	Aircraft Fire: NONE	AW Cert: SPE	

Events

1. Unknown - Unknown or undetermined

Narrative

On July 2, 2017, about 1430 central daylight time, an Cody Hawkins JA30 SuperSTOL airplane, N2463H, collided with trees near Ponca City, OK. The private rated pilot and passenger were not injured and the airplane sustained substantial damage. The airplane was registered to and operated by a private individual under the provisions of 14 Code of Federal Regulations Part 91 as a personal flight. Visual meteorological conditions prevailed for the flight, which operated without a flight plan. The local flight was departing from a private field at the time of the accident.

According to information provided by the pilot, during the initial climb the airplane's performance felt sluggish. The pilot added that the airplane started to lose lift, so he reduced back stick pressure. The pilot maneuvered around trees and descended into terrain. The airplane's landing gear was side-loaded during the landing and collapsed. The airplane then slid to a stop.

The airplane was retained for further examination.

National Transportation Safety Board - Aircraft Accident/Incident Database

Accident Rpt# CEN17LA274	07/15/2017 1300	Regis# N181AL	Colorado Spring, CO	Apt: Meadow Lake Airport FLY
Acft Mk/Mdl ENDLER GLASAIR SH2		Acft SN 181	Acft Dmg: DESTROYED	Rpt Status: Prelim Prob Caus: Pending
			Fatal 0 Ser Inj 0	Flt Conducted Under: FAR 091
Opr Name: PILOT		Opr dba:		Aircraft Fire: GRD
				AW Cert: SPE

Events

1. Takeoff - Loss of control on ground

Narrative

On July 15, 2017, about 1300 mountain daylight time, an experimental amateur-built Endler Glasair SH2, N181AL, impacted terrain during takeoff from Meadow Lake Airport (FLY), Colorado Springs, Colorado. A post-impact fire ensued destroying the airplane. The pilot and passenger on board were uninjured. The airplane was operated by the pilot under 14 Code of Federal Regulations Part 91 as a personal flight that was not operating on a flight plan. Visual meteorological conditions prevailed at the time of the accident. The local flight was originating at the time of the accident.

While taking off on runway 15 at FLY (6,000 feet by 60 feet, asphalt), the airplane ground looped and veered off the runway striking a taxiway light. The airplane then caught on fire.

National Transportation Safety Board - Aircraft Accident/Incident Database

Accident Rpt# CEN16LA219	06/06/2016 1730 CDT	Regis# N8CX	Decatur, TX	Apt: N/a
Acft Mk/Mdl FLOHR DAVID J R 80 TIGER MOTH-NO S	Acft SN TM36	Acft Dmg: SUBSTANTIAL	Rpt Status: Factual	Prob Caus: Pending
Eng Mk/Mdl CONT MOTOR C90-14F	Acft TT 2983	Fatal 0 Ser Inj 0	Flt Conducted Under: FAR 091	
Opr Name: DONALD R. GLITTENBERG	Opr dba:	Aircraft Fire: NONE		AW Cert: SPE

Summary

The airline transport pilot reported that he was flying his experimental, amateur-built airplane about 500 ft above ground level over his ranch when he smelled something burning. About 15 seconds later, the engine experienced a total loss of power, and the propeller stopped spinning. The airplane impacted a ditch and nosed over during the subsequent forced landing. A postaccident examination of the engine revealed that the inline electric boost pump had overheated and burned, which resulted in a loss of fuel supply to the engine.

Cause Narrative

THE NATIONAL TRANSPORTATION SAFETY BOARD DETERMINED THAT THE CAUSE OF THIS OCCURRENCE WAS: A failure of the electric fuel boost pump, which resulted in fuel starvation and a subsequent total loss of engine power.

Events

1. Maneuvering-low-alt flying - Loss of engine power (total)
2. Landing-landing roll - Landing gear collapse
3. Landing-landing roll - Nose over/nose down

Findings - Cause/Factor

1. Aircraft-Aircraft systems-Fuel system-Fuel pumps-Failure - C
2. Environmental issues-Physical environment-Terrain-Sloped/uneven terrain-Contributed to outcome

Narrative

On June 6, 2016, about 1730 central daylight time, an amateur built Flohr David J R-80 Tiger Moth airplane, N8CX, nosed down during an off airport forced landing in Decatur, Texas, following a loss of engine power. The airline transport rated pilot was not injured. The airplane was substantially damaged. The airplane was registered to a private individual and was operated under the provisions of 14 Code of Federal Regulations Part 91 as a personal flight. Visual meteorological conditions prevailed for the flight and no flight plan was filed. The local flight originated from the Lazy G Bar Ranch Airport (90T), Decatur, Texas.

The pilot reported he was flying at an altitude of about 500 ft above the ground over his ranch when the accident occurred. He stated he smelled something burning and about 15 seconds later, the engine lost all power and the propeller stopped spinning. The airplane hit a ditch and nosed over during the forced landing resulting in substantial damage to both lower wings.

The pilot reported the previous owner of the airplane had installed a Facet 150 electric boost pump to increase the fuel flow. The pilot examined the engine after the accident and stated the inline electric boost pump overheated, burned, and shut down the fuel supply to the engine.

National Transportation Safety Board - Aircraft Accident/Incident Database

Accident Rpt# ERA16LA067 12/13/2015 1724 EST Regis# N92744 Lenoir, NC Apt: Lower Creek NC27
Acft Mk/Mdl GOLDEN CIRCLE AIR INC T BIRD II-NO Acft SN 28434 Acft Dmg: DESTROYED Rpt Status: Factual Prob Caus: Pending
Eng Mk/Mdl ROTAX 582DCDI Fatal 0 Ser Inj 1 Flt Conducted Under: FAR 091
Opr Name: BEN R. PROFFIT Opr dba: Aircraft Fire: NONE
AW Cert: SPE

Summary

The private pilot was departing in the experimental light sport airplane. Onboard video footage from a wingtip-mounted camera provided a view of the cockpit. The pilot could be seen with his left hand on the control yoke, but his right hand, which was near the engine throttle, was obscured. The airplane took off and completed the upwind leg of the traffic pattern, and the pilot initiated a right turn toward the crosswind leg. The sound of the engine was smooth and continuous throughout the takeoff and climb. As the airplane entered the turn, a reduction in power was heard, but the engine sound remained smooth and continuous. At the moment of power reduction and the initiation of the turn, the pilot simultaneously applied left aileron, right rudder, and back pressure on the yoke. As the airplane rolled right and nosed down into a spin, the engine could be heard accelerating. The "Remove Before Flight" flag on the locking pin for the airframe parachute deployment handle was observed in the camera's field of view, as the pilot struggled with one hand and then two hands to remove the pin during the descent. Eventually, the pilot freed the pin and actuated the deployment handle as the nose of the airplane entered the tops of the trees. Postaccident examination of the wreckage revealed no pre-impact mechanical anomalies. The airframe parachute was free from its canister, but was not fully deployed due to the airplane's low altitude at the time of deployment.

The video footage of the pilot simultaneously reducing engine power, increasing the airplane's pitch attitude, and applying opposite aileron and rudder controls is consistent with a cross-controlled aerodynamic stall and subsequent spin.

Cause Narrative

THE NATIONAL TRANSPORTATION SAFETY BOARD DETERMINED THAT THE CAUSE OF THIS OCCURRENCE WAS: The pilot's failure to maintain airspeed and a coordinated turn in the traffic pattern, which resulted in the airplane exceeding its critical angle of attack and entering an aerodynamic stall and spin. Contributing to the accident was the pilot's failure to remove the airframe parachute activation handle locking pin before flight.

Events

1. Approach-VFR pattern crosswind - Aerodynamic stall/spin
2. Uncontrolled descent - Collision with terr/obj (non-CFIT)

Findings - Cause/Factor

1. Aircraft-Aircraft oper/perf/capability-Performance/control parameters-Angle of attack-Not attained/maintained - C
2. Personnel issues-Task performance-Use of equip/info-Aircraft control-Pilot - C

Narrative

On December 13, 2015, at 1724 eastern standard time, an experimental light sport Golden Circle Air T Bird II, N92744, was destroyed after it departed controlled flight and crashed into trees and terrain after takeoff from Lower Creek Airport (NC27), Lenoir, North Carolina. The private pilot/owner was seriously injured. Visual meteorological conditions prevailed, and no flight plan was filed for the personal flight, which was conducted under the provisions of Title 14 Code of Federal Regulations Part 91.

The Federal Aviation Administration (FAA) inspector who responded to the scene said he recovered a wing-mounted video camera, removed the data card, and downloaded the contents. Review of the data revealed the accident flight was captured on the card.

Examination of the video revealed that the camera was mounted on the left wing, pointed spanwise along the wing, and provided a view of the cockpit. The pilot could be seen with his left hand on the yoke, but his right hand, which was in the vicinity of the engine throttle, was obscured.

The airplane took off and completed the upwind leg of the traffic pattern, and initiated a turn to the right towards the crosswind leg. The sound of the engine was smooth and continuous throughout the takeoff and climb. As the airplane entered the turn, a reduction in power was heard, but the engine sound remained smooth and continuous. At the moment of power reduction and the initiation of the turn, the pilot simultaneously applied left aileron, right rudder, and back pressure on the yoke.

As the airplane rolled right and into a nose-down spin, the engine could be heard accelerating.

The "Remove Before Flight" flag on the locking pin for the Ballistic Recovery System (BRS) parachute deployment handle was observed in the camera's field of view, as the pilot struggled with one hand and then two hands to remove the pin during the descent. Eventually, the pilot freed the pin, and actuated the deployment handle as the nose of the airplane entered the tops of the trees.

The pilot held a private pilot certificate with a rating for airplane single-engine land. His most recent second-class Federal Aviation Administration (FAA) medical certificate was issued on July 8, 2011, and he reported 40 total hours of flight experience on that date.

Examination of excerpts from the pilot's logbook revealed he had logged 90.6 total hours of flight experience, 25 hours of which were in the accident airplane make and model. The pilot logged 7 hours of flight experience in the 90 days prior to the accident, and 1.2 hours in the 30 days prior; all of which was in the accident airplane.

The airplane was manufactured in 2001. The maintenance records were not recovered, therefore the maintenance and inspection history of the airplane could not be determined.

At 1735, the weather recorded at Morgantown-Lenoir Airport, 10 miles southwest of the accident site, (MRN) included winds from 140 degrees at 3 knots.

Examination of the wreckage by the FAA inspector revealed no pre-impact mechanical anomalies. The BRS parachute was free from its canister, but was not fully deployed.

According to the FAA Airplane Flying Handbook:

The aerodynamic effects of the uncoordinated, cross-control stall can surprise the unwary pilot because it can occur with very little warning and can be deadly if it occurs close to the ground. A cross-control stall occurs when the critical AOA is exceeded with aileron pressure applied in one direction and rudder pressure in the opposite direction, causing uncoordinated flight. A skidding cross-control stall is most likely to occur in the traffic pattern during a poorly planned and executed base-to-final approach turn in which the airplane overshoots the runway centerline and the pilot attempts to correct back to centerline by increasing the bank angle, increasing back elevator pressure, and applying rudder in the direction of the turn (i.e., inside or bottom rudder pressure) to bring the nose around further to align it with the runway.

National Transportation Safety Board - Aircraft Accident/Incident Database

Accident Rpt# WPR17FA152	07/14/2017 930 PDT	Regis# N186EJ	El Monte, CA	Apt: San Gabriel Valley EMT
Acft Mk/Mdl JANSEN PAZMANY PL 2		Acft SN 186	Acft Dmg: SUBSTANTIAL	Rpt Status: Prelim Prob Caus: Pending
Eng Mk/Mdl LYCOMING O-360 SERIES			Fatal 1 Ser Inj 0	Flt Conducted Under: FAR 091
Opr Name: PROGENITECH LLC		Opr dba:		Aircraft Fire: NONE
				AW Cert: SPE

Events

2. Takeoff - Loss of control in flight

Narrative

On July 14, 2017, at 0930 Pacific daylight time, an experimental amateur-built Jansen, Pazmany PL-2, N186EJ, impacted the ground after experiencing a total loss of engine power during the initial climb from the San Gabriel Valley Airport (EMT), El Monte, California. The airplane was registered to Progenitech LLC and operated by the pilot as a 14 Code of Federal Regulations Part 91 personal flight. The private pilot was fatally injured, and the airplane sustained substantial damage. Visual meteorological conditions prevailed and no flight plan had been filed.

A witness reported that he observed the airplane taxi and takeoff a few minutes after the pilot had arrived at the airport. Other witnesses reported they watched the airplane takeoff; when it was about 50-75 feet above the runway, the engine sputtered and lost complete power. The airplane continued straight for a brief time, and to some, it appeared as if the airplane was climbing. The airplane made a steep left turn; during which, the airplane's nose dropped to near vertical and it descended to the ground.

The airplane has been recovered to a secure location for further examination.

National Transportation Safety Board - Aircraft Accident/Incident Database

Accident Rpt# GAA17CA272	05/07/2017 1315 CDT	Regis# N458V	Chesterfield, MO	Apt: Spirit Of St Louis SUS
Acft Mk/Mdl JOHN MURPHY JSX-2-NO SERIES	Acft SN 004	Acft Dmg: SUBSTANTIAL	Rpt Status: Factual	Prob Caus: Pending
Eng Mk/Mdl PBS VELKABITES TJ-100	Acft TT 7	Fatal 0	Ser Inj 0	Flt Conducted Under: FAR 091
Opr Name: JOHN R. MURPHY TRUSTEE	Opr dba:	Aircraft Fire: NONE	AW Cert: SPE	

Summary

The pilot reported that, after takeoff, about "100 ft. above ground level," the canopy opened and the airplane became "very hard to control." He added that he was able to return to the airport to land; however, during the approach, the airplane was unstable due to the "pitching and yawing." Subsequently, during the landing flare, when he reduced engine power, the airplane touched down hard, and the landing gear collapsed. The airplane exited the runway to the right and came to rest nose down.

The airplane sustained substantial damage to the fuselage.

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

Cause Narrative

THE NATIONAL TRANSPORTATION SAFETY BOARD DETERMINED THAT THE CAUSE OF THIS OCCURRENCE WAS: The pilot's failure to ensure that the canopy was properly secured before takeoff, which resulted in an unstable landing flare and hard landing.

Events

1. Landing - Hard landing
2. Landing - Landing gear collapse
3. Landing - Runway excursion
4. Landing - Nose over/nose down

Findings - Cause/Factor

1. Aircraft-Aircraft structures-Doors-Passenger/crew doors-Unintentional use/operation - C
2. Personnel issues-Action/decision-Action-Forgotten action/omission-Pilot - C
3. Personnel issues-Task performance-Use of equip/info-Aircraft control-Pilot - C
4. Aircraft-Aircraft oper/perf/capability-Performance/control parameters-Landing flare-Attain/maintain not possible
5. Personnel issues-Task performance-Inspection-Preflight inspection-Pilot

Narrative

The pilot reported that, after takeoff, about "100 ft. above ground level" the canopy opened and the airplane became "very hard to control". He added, that he was able to return to the airport to land, however during the approach the airplane was unstable due to the "pitching and yawing". Subsequently, during the landing flare when he reduced engine power, the airplane touched down hard and the landing gear collapsed. The airplane exited the runway to the right, and came to rest nose down.

The airplane sustained substantial damage to the fuselage.

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

National Transportation Safety Board - Aircraft Accident/Incident Database

Accident Rpt# GAA17CA269	05/06/2017 2045	Regis# N47KJ	Spanish Fork, UT	Apt: Spanish Fork-springville-woodh U77
Acft Mk/Mdl JOHNSON KENNETH SUPER CUB		Acft SN 471D	Acft Dmg: SUBSTANTIAL	Rpt Status: Factual Prob Caus: Pending
Eng Mk/Mdl LYCOMING O-360-E2D			Fatal 0 Ser Inj 0	Flt Conducted Under: FAR 091
Opr Name: BROWN, WALLACE A.		Opr dba:		Aircraft Fire: NONE
				AW Cert: SPE

Summary

The pilot reported that, "about half way through the [landing] rollout I lost control of the aircraft and ground looped to the right." During the ground loop, the left main landing gear collapsed, and the left wing impacted the runway.

The left wing sustained substantial damage.

The pilot failed to submit the National Transportation Safety Board NTSB Form 6120.1 Pilot/ Operator Aircraft Accident/ Incident Report after multiple requests.

An automated weather observation station, 5 nautical miles from the accident airport, recorded that, about the time of the accident, the wind was from 120ø at 20 knots, gusting to 28 knots. The pilot reported that the landing was on runway 30.

Cause Narrative

THE NATIONAL TRANSPORTATION SAFETY BOARD DETERMINED THAT THE CAUSE OF THIS OCCURRENCE WAS: The pilot's decision to land with a gusting tailwind and his subsequent failure to maintain directional control.

Events

1. Landing-landing roll - Other weather encounter
2. Landing-landing roll - Loss of control on ground
3. Landing-landing roll - Landing gear collapse
4. Landing-landing roll - Abnormal runway contact

Findings - Cause/Factor

1. Personnel issues-Task performance-Use of equip/info-Aircraft control-Pilot - C
2. Personnel issues-Action/decision-Info processing/decision-Decision making/judgment-Pilot - C
3. Aircraft-Aircraft oper/perf/capability-Performance/control parameters-Directional control-Not attained/maintained - C
4. Environmental issues-Conditions/weather/phenomena-Wind-Tailwind-Decision related to condition
5. Environmental issues-Conditions/weather/phenomena-Wind-Gusts-Decision related to condition

Narrative

The pilot reported in a written statement that, "about half way through the [landing] roll out I lost control of the aircraft and ground looped to the right." During the ground loop, the left main landing gear collapsed and the left wing impacted the runway.

The left wing sustained substantial damage.

The pilot failed to submit the National Transportation Safety Board NTSB Form 6120.1 Pilot/ Operator Aircraft Accident/ Incident Report after multiple requests.

An automated weather observation station, 5 nautical miles from the accident airport, about the time of the accident, recorded wind 120ø at 20 knots, gusting 28 knots. The pilot reported that the landing was on runway 30.

National Transportation Safety Board - Aircraft Accident/Incident Database

Accident Rpt# CEN17LA065	12/23/2016 1013 MST	Regis# N320RJ	Cody, WY	Apt: Yellowstone Regional Airport COD
Acft Mk/Mdl LUECK KITFOX 7		Acft SN S70507084	Acft Dmg: SUBSTANTIAL	Rpt Status: Factual Prob Caus: Pending
Eng Mk/Mdl ROTAX 914UL		Acft TT 39	Fatal 0 Ser Inj 0	Flt Conducted Under: FAR 091
Opr Name: INDIVIDUAL		Opr dba:		Aircraft Fire: NONE
				AW Cert: SPE

Events

5. Landing-landing roll - Collision during takeoff/land

Narrative

On December 23, 2016, at 1013 mountain standard time, a Kitfox 7, N320RJ, experienced a loss of engine power during a visual approach from the airport traffic pattern at Yellowstone Regional Airport (COD), Cody, Wyoming. The pilot performed a forced landing to a field where the airplane nosed-over and impacted terrain. The commercial pilot was uninjured. The airplane received substantial damage. The airplane was registered to and operated by an individual under 14 Code of Federal Regulations Part 91 as a pilot proficiency flight. Visual meteorological conditions prevailed for the flight that was not operating on a flight plan. The flight originated from COD about 1000 and was to remain in the airport traffic pattern.

The pilot was employed as a flight instructor for Choice Aviation at COD. The pilot stated that the airplane was owned by a former student of his, who was issued a private pilot certificate in November 2016. The pilot stated that he had provided all the airplane owner's flight training toward his private pilot certificate, using a Cessna 172M operated by Choice Aviation. The airplane owner planned on flying the accident airplane and had Choice Aviation perform a condition inspection on October 20, 2016. The airplane owner wanted the pilot to fly the airplane to gain proficiency so that the owner could receive flight instruction from the pilot using the accident airplane.

On November 5, 2016, the pilot and the chief pilot of Choice Aviation performed a checkout flight in the accident airplane, but the flight returned and landed without incident shortly after takeoff due to engine roughness. The airplane then underwent maintenance at Choice Aviation where it was determined that the it was not receiving enough fuel at full power, even with both electric fuel pumps on. Check valves were installed in the fuel system, and the fuel pressure regulator was replaced.

On December 22, 2016, the pilot and chief pilot performed a second checkout flight in the accident airplane, during which there was "slight engine roughness" at high power settings, which was not "as bad" as what had occurred on the previous checkout flight. The airplane "ran perfectly fine" at 35 inches of manifold pressure and below. The pilot and chief pilot performed power off stalls, steep turns, climbs and descent as well as three takeoffs and landings, and the airplane "flew normal."

The pilot stated that to fix the remaining fuel issue at high power settings, a Choice Aviation mechanic adjusted the fuel pressure to the maximum setting for the engine to receive more fuel needed to run at maximum engine power.

On the day of the accident, the pilot flew another flight in the accident airplane to gain further proficiency in the handling characteristics of the airplane. The pilot stated that prior to the flight, he performed a "thorough" preflight inspection of the airplane, and the inspected items were in "working order." The pilot performed "several" start attempts and had to use the choke to start the engine in cold weather conditions. While holding short of runway 22 for takeoff, the pilot ran the engine to 4,000 rpm and checked the ignition circuits. He then turned fuel pump "B" on and ran the engine to maximum power, which brought the fuel pressure to 23 psi; the engine ran "fine." The pilot said that on previous flights, the engine would not run "smoothly" at maximum power settings. The pilot said that when he reduced engine power to 4,000 rpm and turned off both pumps, the engine "slowly quit." He then restarted the engine and taxied to maintenance to confirm normal operation of the engine with the mechanic. The airplane engine was then run-up with the pilot and the mechanic, and the engine remained in limits from maximum power to idle with both fuel pumps on. With both fuel pumps off, the fuel pressure dropped, and the engine did not quit. The mechanic exited the airplane, and the pilot taxied the airplane to runway 22 and performed another run-up at 4,000 rpm with both fuel pumps on and "everything checked out."

The pilot then performed a takeoff from runway 22 and entered a left crosswind, during which the pitot tube rotated sideways resulting in an airspeed indication of 0 knots. The pilot then flew a left traffic pattern to land on runway 22. While in a left downwind and abeam the runway numbers, the pilot reduced engine power to 15 inches of manifold pressure, with both fuel pumps on, to begin a descent. He "sensed" something was not right with the engine so he applied power and there was no response. He turned the airplane onto a left base and maintained what he thought was the pitch attitude for best glide. The propeller continued to turn, but after multiple attempts to adjust the throttle, he realized that the engine was not responding. The pilot performed a forced landing in a grass field short of runway 22 due to a snow bank near the approach end of the runway. During the landing, the airplane rolled for about 75 feet until the nose

landing gear collapsed. The airplane then slid for about 90 feet.

Examination of the airplane revealed that a black color fuel line to the pressure regulator was $\frac{1}{8}$ inch in diameter. The absolute pressure sensor was not mounted using a screw through its mounting hole. The absolute pressure sensor, "966 507," was attached to the engine frame using a black-color substance consistent with sealant in front of and toward the bottom of airplane battery, which was mounted on the right side of the firewall, as viewed from tail-to-nose. The airplane contained useable fuel in the left and right fuel tanks consistent in color with 100 low lead aviation fuel. The left and right wing filler cap vents were unobstructed. The pitot tube was rotated laterally so that the pitot tube inlet was pointed inward toward the fuselage. The airplane engine did not exhibit any leaks of fuel, oil, or coolant. Engine control continuity from the cockpit control to the engine was confirmed. The pressure regulator, "887 130, 16.0280," exhibited a gouge on the side of the its adjustment screw retaining nut. The fuel selector was in the off position. All the fuel line shut off valves were in the on position. The Hobbs meter indication was 109.7 hours.

In preparation of an engine run, the oil quantity level was checked by rotating the propeller by hand until a burp was heard from the engine oil reservoir. The engine oil level then rose, and its quantity was at the base of the oil filler neck, which was above the maximum oil capacity for the engine. The excess engine oil was drained and estimated to be about 16 ounces above the maximum oil capacity for the engine. The propeller was removed due to accident damage and replaced for the engine run. The airplane was then tied down and was started after six start attempts over about a 1:00 minute period. The engine was then run for about 5:30 minutes to a full-power setting without power loss. To replicate the accident flight, a second engine run was then performed during which the engine was run at a full power setting and then retarded to 15 inches of manifold pressure. When engine power was retarded to a manifold pressure of 15 inches, with both fuel pumps in the on-position, the engine quit and was unable to be restarted. Fuel lines were examined after the engine run. The black color fuel line, leading to the fuel pressure regulator, contained fuel and exhibited pressure when the fuel pumps were on; the return fuel line contained fuel. The engine was unable to be started after several attempts. The airplane interior was removed to examine the fuel system/lines for leakage/obstruction and none were noted. A transparent-green color fuel return line from the pressure regulator was connected toward the bottom left side of the fuel header tank behind the passenger seat. There was a second transparent-green color line connected to the top of fuel header tank that had a transducer spliced into the line which was connected to the right fuel tank via the wing root. The transducer, of undetermined function, was at a distance midpoint between the top of the header tank and the right-wing root. Fuel was present up to the transducer but there was no fuel present in the line above the transducer throughout the examination/engine runs. Black color fuel lines from the left and right-wing fuel tanks were connected toward the bottom of the fuel header tank. The fuel pressure regulator fuel return line was disconnected from the pressure regulator's return port, and a fuel hose was connected from pressure regulator's return port and inserted into the right-wing filler port. A dual needle pressure gauge was attached to the pressure regulator and induction manifold as per the engine maintenance manual. After several engine start attempts, the engine was started and the fuel pressure needle was about 62.5 inches and the manifold pressure was about 29 inches. When engine power was reduced to about 17 inches of manifold pressure with the fuel pumps on, the engine quit. The pressure regulator screw was turned one turn toward decreasing fuel pressure. The engine was started with less start attempts of shorter duration and was run again. The fuel pressure and manifold pressure had a differential of about 5 inches. The engine was run at full power and then at 15 inches with and without the fuel pump on and there was no loss of engine power. The throttle was cycled between full power and 15 inches with the fuel pumps on and there was no loss of engine power.

According to Rotex 914 Fuel Pressure Regulator maintenance information, the "maximum fuel pressure is approximately 10.3 inches of mercury (5.08 psi) above airbox pressure. The minimum fuel pressure is approximately 4.44 inches of mercury (2.18 psi) above the airbox pressure. The fuel pressure regulators are "PRE-SET at the factory and RARELY need adjustment if at all.EVER!"

National Transportation Safety Board - Aircraft Accident/Incident Database

Accident Rpt# GAA17CA257	05/04/2017 1123	Regis# N832SD	Englewood, CO	Apt: Centennial APA
Acft Mk/Mdl NELSON SYDNEY VANS ACFT		Acft SN 80832	Acft Dmg: SUBSTANTIAL	Rpt Status: Factual Prob Caus: Pending
Eng Mk/Mdl LYCOMING O-360-A1A		Acft TT 735	Fatal 0 Ser Inj 0	Flt Conducted Under: FAR 091
Opr Name: JAMES GEYMAN		Opr dba:		Aircraft Fire: NONE
				AW Cert: SPE

Summary

The pilot reported that, during the landing flare in gusting crosswind conditions, he realized that the descent rate was a "little fast/ heavy," so he "reached to [the] left to add power and smooth out [the] flare." He further reported that he mistakenly grabbed the "red knob" (the mixture control), instead of the throttle, to arrest the descent rate. Subsequently, the airplane continued to descend, bounced hard on the runway, and became airborne again. When the airplane settled back onto the runway, the nose landing gear collapsed, the propeller struck the runway, and the airplane veered off the runway to the left and nosed over. The fuselage and vertical stabilizer sustained substantial damage.

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

An automated weather observation station at the accident airport recorded that, about the time of the accident, wind was from 360° at 8 knots, gusting 15 knots. The pilot reported that the landing was on runway 28.

Cause Narrative

THE NATIONAL TRANSPORTATION SAFETY BOARD DETERMINED THAT THE CAUSE OF THIS OCCURRENCE WAS: The pilot's improper landing flare and inadvertent selection of the mixture control, which resulted in a hard, bounced landing during gusting crosswind wind conditions.

Events

1. Landing-flare/touchdown - Other weather encounter
2. Landing-flare/touchdown - Hard landing
3. Landing-landing roll - Landing gear collapse
4. Landing-landing roll - Runway excursion
5. Landing-landing roll - Nose over/nose down

Findings - Cause/Factor

1. Personnel issues-Task performance-Use of equip/info-Aircraft control-Pilot - C
2. Personnel issues-Action/decision-Action-Incorrect action selection-Pilot - C
3. Aircraft-Aircraft systems-Fuel system-(general)-Unintentional use/operation - C
4. Aircraft-Aircraft oper/perf/capability-Performance/control parameters-Landing flare-Incorrect use/operation - C
5. Environmental issues-Conditions/weather/phenomena-Wind-Gusts-Effect on operation
6. Environmental issues-Conditions/weather/phenomena-Wind-Crosswind-Effect on operation

Narrative

The pilot reported that, during the landing flare in gusting crosswind conditions, he realized that the descent rate was a "little fast/ heavy," so he "reached to [the] left to add power and smooth out [the] flare." He further reported that he mistakenly grabbed the "red knob," the mixture control, instead of the throttle to arrest the descent rate. Subsequently, the airplane continued to descend, bounced hard on the runway, and became airborne again. When the airplane settled back onto the runway, the nose landing gear collapsed, the propeller struck the runway, and the airplane veered off the runway to the left and nosed over.

The fuselage and vertical stabilizer sustained substantial damage.

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

An automated weather observation station, at the accident airport, about the time of the accident, recorded wind 360° at 8 knots, gusting 15 knots. The pilot reported that the landing was on runway 28.

National Transportation Safety Board - Aircraft Accident/Incident Database

Accident Rpt# GAA17CA136	02/11/2017 1740 EST	Regis# N289MN	Punta Gorda, FL	Apt: Punta Gorda PGD
Acft Mk/Mdl NIELSEN MARTIN M CHALLENGER II	Acft SN 2089	Acft Dmg: SUBSTANTIAL	Rpt Status: Factual	Prob Caus: Pending
Eng Mk/Mdl ROTAX 503 DCDI	Acft TT 22	Fatal 0	Ser Inj 0	Flt Conducted Under: FAR 091
Opr Name: MARTIN M. NIELSEN	Opr dba:	Aircraft Fire: NONE		AW Cert: SPR

Summary

The pilot reported that, during the landing flare, while on his second landing attempt, the airplane began to sink rapidly, and the right wing dropped. He applied right rudder and power in an attempt to maintain directional control but was unsuccessful. The airplane settled in the bushes to the left of the runway.

The airplane sustained substantial damage to the right wing.

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

Cause Narrative

THE NATIONAL TRANSPORTATION SAFETY BOARD DETERMINED THAT THE CAUSE OF THIS OCCURRENCE WAS: The pilot's failure to maintain directional control during landing.

Events

1. Landing - Loss of control in flight
2. Landing - Attempted remediation/recovery
3. Landing - Collision with terr/obj (non-CFIT)

Findings - Cause/Factor

1. Aircraft-Aircraft oper/perf/capability-Performance/control parameters-Directional control-Not attained/maintained - C
2. Personnel issues-Task performance-Use of equip/info-Aircraft control-Pilot - C
3. Environmental issues-Physical environment-Object/animal/substance-Tree(s)-Contributed to outcome

Narrative

The pilot reported that, during the landing flare, while on his second landing attempt, the airplane began to sink rapidly and the right wing dropped. He applied right rudder and power in an attempted to maintain directional control, but was unsuccessful. The airplane settled in the bushes to the left of the runway.

The airplane sustained substantial damage to the right wing.

The pilot reported 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# GAA17CA417 07/16/2017 830 CDT Regis# N714H Brenham, TX Apt: Brenham Muni 11R
Acft Mk/Mdl PERNER/PITTS S1S-NO SERIES Acft SN 15P Acft Dmg: SUBSTANTIAL Rpt Status: Prelim Prob Caus: Pending
Fatal 0 Ser Inj 0 Flt Conducted Under: FAR 091
Opr Name: RONALD ROWARS Opr dba: Aircraft Fire: NONE

National Transportation Safety Board - Aircraft Accident/Incident Database

Accident Rpt# GAA17CA308	05/27/2017 1300 CDT	Regis# N721E	Fort Worth, TX	Apt: N/a
Acft Mk/Mdl ROBERT HAMBLIN AUTOGYRO GMBH	Acft SN V00255	Acft Dmg: SUBSTANTIAL	Rpt Status: Factual	Prob Caus: Pending
Eng Mk/Mdl ROTAX 914	Acft TT 94	Fatal 0	Ser Inj 0	Flt Conducted Under: FAR 091
Opr Name: ROBERT HAMBLIN	Opr dba:	Aircraft Fire: NONE	AW Cert: SPE	

Summary

The pilot of the gyrocopter reported that, after flying over his passenger's house to take pictures, he headed back to the airport. He added that, while in level flight, he noticed that "the trees on the ground under [him were] rapidly getting closer." He initially presumed something was wrong with the engine, so he reduced throttle and then successfully applied full throttle in an attempt to troubleshoot the situation. He made a left 180ø turn, and the gyrocopter struck trees and impacted terrain.

The gyrocopter sustained substantial damage to the empennage.

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

The pilot reported that he had presumed the terrain he was flying over was flat but later realized he had flown into rising terrain.

Cause Narrative

THE NATIONAL TRANSPORTATION SAFETY BOARD DETERMINED THAT THE CAUSE OF THIS OCCURRENCE WAS: The pilot's failure to maintain clearance from terrain.

Events

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

Findings - Cause/Factor

1. Personnel issues-Psychological-Attention/monitoring-Monitoring environment-Pilot - C
2. Environmental issues-Physical environment-Terrain-(general)-Awareness of condition - C
3. Environmental issues-Physical environment-Terrain-(general)-Effect on operation - C

Narrative

The pilot of the gyrocopter reported that after flying over his passenger's house to take pictures, he headed back to the airport. He added that while in level flight, he noticed that "the trees on the ground under [him were] rapidly getting closer". He initially presumed something was wrong with the engine, so he reduced throttle and then successfully applied full throttle in an attempt to troubleshoot the situation. He made a left 180ø turn and the gyrocopter struck trees and impacted terrain.

The gyrocopter sustained substantial damage to the empennage.

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

The pilot reported that he had presumed the terrain he was flying over was flat, but had later realized he had flown into rising terrain.

National Transportation Safety Board - Aircraft Accident/Incident Database

Accident Rpt# GAA17CA424	07/18/2017 1333 PDT	Regis# N702KF	Owyhee, OR	Apt: Owyhee Reservoir State 28U
Acft Mk/Mdl SALERNO KENNETH G JR KITFOX	Acft SN S60102-049	Acft Dmg: SUBSTANTIAL	Rpt Status: Prelim	Prob Caus: Pending
		Fatal 0	Ser Inj 0	Flt Conducted Under: FAR 091
Opr Name: SALERNO KENNETH G JR	Opr dba:			Aircraft Fire: NONE

National Transportation Safety Board - Aircraft Accident/Incident Database

Accident Rpt# GAA17CA411A 07/16/2017 1526 PDT Regis# N506WS San Diego, CA Apt: Montgomery-gibbs Executive MYF
Acft Mk/Mdl SPANI WAYNE M STARDUSTER TOO Acft SN 1407 Acft Dmg: MINOR Rpt Status: Prelim Prob Caus: Pending
Fatal 0 Ser Inj 0 Flt Conducted Under: FAR 091
Opr Name: DANIEL CALLAN Opr dba: Aircraft Fire: NONE

National Transportation Safety Board - Aircraft Accident/Incident Database

Accident Rpt# GAA17CA176	02/22/2017 1000 EST	Regis# N305Y	Monongahela, PA	Apt: Rostraver FWQ
Acft Mk/Mdl STUMP GREAT LAKES 2T 1A-E		Acft SN 6825A-358	Acft Dmg: SUBSTANTIAL	Rpt Status: Factual Prob Caus: Pending
Eng Mk/Mdl FRANKLIN 6A-350-C2		Acft TT 465	Fatal 0 Ser Inj 0	Flt Conducted Under: FAR 091
Opr Name: JOHN F. MASTERS		Opr dba:		Aircraft Fire: NONE
				AW Cert: SPE

Summary

The pilot of a tailwheel-equipped airplane reported that the airplane veered to the right and then left. He corrected the veer to the right but "didn't get on it quick enough to stop the turn." The airplane continued to the left and ground looped.

A postaccident examination revealed that the airplane sustained substantial damage to the right wing.

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

The automated weather observation station on the airport reported that, about the time of the accident, the wind was from 190ø at 6 knots. The pilot landed on runway 26.

Cause Narrative

THE NATIONAL TRANSPORTATION SAFETY BOARD DETERMINED THAT THE CAUSE OF THIS OCCURRENCE WAS: The pilot's failure to maintain directional control of the airplane during the landing roll with crosswind conditions.

Events

1. Landing-landing roll - Loss of control on ground

Findings - Cause/Factor

1. Aircraft-Aircraft oper/perf/capability-Performance/control parameters-Directional control-Not attained/maintained - C
2. Personnel issues-Task performance-Use of equip/info-Aircraft control-Pilot - C
3. Environmental issues-Conditions/weather/phenomena-Wind-Crosswind-Effect on operation

Narrative

The pilot of a tailwheel-equipped airplane reported that, the airplane veered to the right and then left. He corrected the veer to the right, but "didn't get on it quick enough to stop the turn." The airplane continued to the left and ground looped.

A postaccident examination revealed that, the airplane sustained substantial damage to the right wing.

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

The automated weather observation station on the airport, about the time of the accident, reported that, the wind was from 190ø at 6 knots. The pilot landed on runway 26.

National Transportation Safety Board - Aircraft Accident/Incident Database

Accident Rpt# GAA17CA301	04/30/2017 1510 PDT	Regis# N89SR	Napa, CA	Apt: N/a
Acft Mk/Mdl ZWICKER MURRAY R GLASTAR-NO	Acft SN 5492	Acft Dmg: SUBSTANTIAL	Fatal 0	Prob Caus: Pending
Eng Mk/Mdl LYCOMING O-360 SERIES		Ser Inj 0	Fit Conducted Under: FAR 091	
Opr Name: BORHAUG, JAN E.	Opr dba:		Aircraft Fire: NONE	
			AW Cert: SPE	

Events

2. Landing-landing roll - Landing gear collapse

Narrative

The pilot of the amphibious float-equipped airplane reported that, after the owner had completed multiple touch-and-go water landings, he elected to take the flight controls and perform a few water landings himself. He added that his first touch-and-go water landing "went very well." However, during the second touch-and-go water landing, the touchdown was smooth, but as he added power to "begin the climb away", the airplane veered right and nosed over into the water. He added that, the right float may have struck a submerged object during the landing.

The right wing lift strut sustained substantial damage.

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

According to a Federal Aviation Administration (FAA) Aviation Safety Inspector who inspected the accident airplane postaccident, the forward first third section of the right float was bent upward and had "scratching and scoring" marks on the bottom side of the float. He added that he did not observe any rust or corrosion on either float.

A review of the FAA airman certification database revealed that neither pilot held an airplane single engine sea rating.