

National Transportation Safety Board - Aircraft Accident/Incident Database

Accident Rpt# ERA16LA199 05/31/2016 1045 CDT Regis# N156WB Elberta, AL Apt: Perdido Winds Airpark AL08
Acft Mk/Mdl AMERICAN LEGEND AIRCRAFT CO Acft SN AL-1173 Acft Dmg: SUBSTANTIAL Rpt Status: Factual Prob Caus: Pending
Eng Mk/Mdl CONT MOTOR O-200-D Acft TT 276 Fatal 0 Ser Inj 0 Flt Conducted Under: FAR 091
Opr Name: MHOC LLC Opr dba: Aircraft Fire: NONE
AW Cert: LTSP

Summary

The sport pilot reported that he had conducted two uneventful touch-and-go landings in the light-sport airplane. After the pilot climbed the airplane to about 200 ft above ground level, the engine lost total power. The pilot tried to turn back to the airport, but the airplane lost altitude and struck some trees about 50 ft short of the runway. The pilot observed fuel "pouring out" of the airplane and shut off the electrical system before exiting the airplane.

During a postaccident test run of the engine at several power settings, the engine performed normally with no anomalies noted. The reason for the loss of engine power could not be determined.

Cause Narrative

THE NATIONAL TRANSPORTATION SAFETY BOARD DETERMINED THAT THE CAUSE OF THIS OCCURRENCE WAS: A total loss of engine power for reasons that could not be determined because the engine ran normally during a postaccident engine test run with no anomalies noted.

Events

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

Findings - Cause/Factor

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

Narrative

On May 31, 2016, about 1045 central daylight time, an American Legend Aircraft Company AL3, N156WB, collided with terrain following a total loss of engine power after takeoff from Perdido Winds Airpark (AL08), Elberta, Alabama. The sport pilot incurred minor injuries and the airplane was substantially damaged. Visual meteorological conditions prevailed and no flight plan was filed for the personal flight. The airplane was registered to and operated by MHOC LLC, under the provisions of 14 Code of Federal Regulations Part 91.

The pilot was a mechanic for the company that owned the light-sport airplane. He stated that the airplane was due for a condition inspection, and he wanted to "warm the airplane up" before starting the inspection. He arrived at 82J and fueled the airplane with 17 gallons of fuel, waited a period of time, and sampled fuel from the fuel tanks. He completed the preflight inspection and took off for AL08.

The pilot made one full stop landing at AL08, taxied back, and departed runway 35 for two touch-and-go landings. After an uneventful touch-and-go landing to runway 35, he made a teardrop turn and planned to land on runway 17. He again performed another uneventful touch and go landing, and while climbing out decided he would return for another full stop landing on runway 35. During his slight right climbing turn, the engine "just quit." The airplane was approximately 200 feet above the ground, and he attempted to continue the turn back to runway 35; however, the airplane subsequently impacted trees about 50 feet short of the runway. The pilot observed fuel "pouring out" and shut off the electrical system prior to exiting the airplane.

The engine was then sent to the manufacturer for a full power test-run. The engine was set on an engine run stand and a slave carburetor was installed, since the original carburetor was fractured during impact. The engine started immediately and was idled for several minutes to warm up before the high power runs. The engine was run at several different power settings, from idle to full power, and all parameters were within the manufacturer's specification limits. After approximately 30 minutes of run time, the engine was shut down and no anomalies were noted.

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Accident Rpt# ERA16LA045 11/21/2015 1530 EST Regis# N28365 Monroe, NC Apt: Edwards Airport 9NC3
Acft Mk/Mdl PHANTOM AERONAUTICS PHANTOM X Acft SN 0302004 Acft Dmg: SUBSTANTIAL Rpt Status: Factual Prob Caus: Pending
Eng Mk/Mdl ROTAX 582 Fatal 0 Ser Inj 1 Flt Conducted Under: FAR 091
Opr Name: ROBERT SCHOLL Opr dba: Aircraft Fire: NONE
AW Cert: SPX

Summary

According to the noncertificated pilot of the experimental, light-sport airplane, he was flying in formation behind another airplane. As he approached the destination airport and began a turn to set the airplane up for landing, he heard the engine "hiccup," and he increased the throttle; however, the engine then "choked." The pilot increased the pitch attitude of the airplane to climb, but the airplane impacted a tree and then descended to the ground nose first. During a postaccident examination of the airplane and engine, no preimpact mechanical malfunctions were found that would have precluded normal operation. When asked about the loss of engine power, the pilot stated that he thought the "old gas" he brought that day might have been contaminated with water and that this could have contributed to the accident. The fuel tank was ruptured, leaking, and an unmeasured amount of fuel was noted in the tank. No debris was noted in the remaining fuel. The investigation could not determine the effect the fuel had on the engine performance, and the reason for the loss of power could not be determined.

Cause Narrative

THE NATIONAL TRANSPORTATION SAFETY BOARD DETERMINED THAT THE CAUSE OF THIS OCCURRENCE WAS: The partial loss of engine power for reasons that could not be determined because postaccident examination of the engine did not reveal any preimpact anomalies that would have precluded normal operation.

Events

1. Approach - Loss of engine power (partial)
2. Approach - Loss of control in flight
3. Approach - Aerodynamic stall/spin
4. Approach - Collision with terr/obj (non-CFIT)

Findings - Cause/Factor

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

Narrative

On November 21, 2015, about 1530 eastern standard time, an experimental light sport Phantom Aeronautics Phantom X1, N28365, impacted trees during approach to Edwards Airport (9NC3), Monroe, North Carolina. The airplane sustained substantial damage to the right wing and fuselage. The non-certificated pilot incurred serious injuries. Day 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 pilot, he had flown two times earlier in the day without any anomalies. For the accident flight, he and another pilot were flying in formation to 9NC3. As they approached the airport, the other pilot conveyed that he was going to land, and the accident pilot responded that he would "make a slow circle" and then land at the airport. He then began a turn to the right and was overflying trees when he heard the engine "hiccup." He adjusted the throttle and then stated that the engine was "choking." Next, the pilot increased back pressure on the flight control stick in order to gain altitude, "but was already too slow to maintain level flight." The airplane struck a tree, descended "straight down," and impacted the ground nose first.

The pilot reported that he did not hold a Federal Aviation Administration (FAA) airman certificate or a medical certificate. However, he had approximately 32 hours of flight experience, of which, all the flight hours were in the same make and model as the accident airplane, and 18 hours were in the previous 90 days.

According to FAA records, the airplane was manufactured in 2002 and registered to the pilot/owner in 2015. The high wing, single seat, airplane was equipped with a Rotax 582 series, 65-hp engine, that was mounted above and forward of the cockpit. A review of the engine maintenance log indicated that the most recent engine inspection occurred on May 1, 2014, and at that time the engine had accumulated 165.4 total hours of time in service, and 20.8 hours since major overhaul.

When asked about the loss of engine power, the pilot stated that he thought the "'old' gas he brought" that day, which might have been contaminated with water. In addition, the pilot reported in the NTSB Pilot/Operator Aircraft Accident/Incident Report, Form 6120.1, under the Operator/Owner Safety Recommendation section of the form that "there had been rain during that week."

The airplane came to rest approximately a quarter mile to the northwest from the center of the airport. Postaccident examination of the wreckage revealed that the airplane impacted in a right wing low, nose down attitude. The outboard section of the right wing exhibited crush damage and was bent aft. The forward section of the fuselage was impact damaged and bent to the left. Flight control continuity was confirmed from the flight controls to all flight control surfaces. In addition, the engine remained attached to the fuselage; however, all propeller blades were impact separated and located in the vicinity of the main wreckage. The fuel tank was ruptured, leaking, and an unmeasured amount of fuel was noted in the tank. No debris was noted in the remaining fuel. In addition, the fuel lines remained attached to the engine, and there was fuel noted in the lines. There were no other obvious mechanical anomalies observed with the engine.

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Accident Rpt# GAA17CA553 09/24/2017 1206 EDT Regis# N7675K Hopewell Townsh, NJ
Acft Mk/Mdl AEROTRIKE SAFARI-NO SERIES Acft SN 270S Acft Dmg: SUBSTANTIAL Rpt Status: Prelim Prob Caus: Pending
Fatal 0 Ser Inj 0 Flt Conducted Under: FAR 103
Opr Name: CHARLES T. MCDOWELL Opr dba: Aircraft Fire: NONE

National Transportation Safety Board - Aircraft Accident/Incident Database

Accident Rpt# CEN15LA104 01/16/2015 1230 CST Regis# N416JB The Woodlands, TX Apt: N/a
Acft Mk/Mdl BAKER BOBBY J SAFARI-NO SERIES Acft SN CH2181 Acft Dmg: SUBSTANTIAL Rpt Status: Factual Prob Caus: Pending
Eng Mk/Mdl AEROSPORT O-360 Fatal 1 Ser Inj 0 Flt Conducted Under: FAR 091
Opr Name: MICHAEL MIMMS Opr dba: Aircraft Fire: NONE
AW Cert: SPE

Summary

The commercial pilot was conducting a personal flight in the experimental, amateur-built helicopter. Several witnesses reported seeing the helicopter flying overhead. They reported that it appeared to be flying normally but that it then turned sideways, banked left, and descended to the ground. One witness reported hearing a breaking sound and then seeing the "back rotor" hanging from the helicopter.

The horizontal stabilizer was found separated from the tailboom. Postaccident examination revealed that the horizontal stabilizer spar tube had fractured at the weld area just outboard of the mounting flange. Examinations of the fracture surfaces revealed features consistent with fatigue cracking that had initiated at multiple origins along the weld toe. Although no weld defects or corrosion were noted at the fatigue origins, large areas of both fracture faces were covered by red and brown corrosion products, indicating that the cracks were present and exposed for a considerable amount of time (at least many days but more likely many weeks).

The fatigue origins were located on the aft surface of the spar and propagated generally forward. The origin location and direction of propagation were indicative of cyclic bending loads in the spar as if the tip of the stabilizer repetitively moved forward relative to the mount. The source of the cyclic bending loads was not clear but could have been the result of many different helicopter factors. These factors could have been unique to the accident helicopter or could be present on all similar helicopters. It is likely that the horizontal stabilizer separated in flight due to undetected fatigue cracking in the stabilizer spar, which resulted in the uncontrolled descent.

As assembled, the fracture location and weld were partially hidden by the horizontal stabilizer's airfoil skin and not directly visible, which would have made any cracking difficult to see. Following the accident, the kit manufacturer issued a mandatory inspection and modification bulletin for the horizontal stabilizer, which detailed inspection criteria and spar replacement guidance if cracking was found.

Cause Narrative

THE NATIONAL TRANSPORTATION SAFETY BOARD DETERMINED THAT THE CAUSE OF THIS OCCURRENCE WAS: An in-flight separation of the helicopter's horizontal stabilizer due to undetected fatigue cracking of the stabilizer spar, which resulted in a loss of control.

Events

1. Enroute - Aircraft structural failure
2. Enroute - Loss of control in flight

Findings - Cause/Factor

1. Aircraft-Aircraft structures-(general)-(general)-Failure - C
2. Aircraft-Aircraft structures-(general)-(general)-Fatigue/wear/corrosion - F

Narrative

HISTORY OF FLIGHT

On January 16, 2015, about 1230 central standard time, an experimental, amateur-built Safari 400 helicopter, N416JB, impacted terrain following a loss of control in The Woodlands, Texas. The commercial pilot was fatally injured, and the helicopter was destroyed. The helicopter was registered to and operated by the pilot under the provisions of 14 Code of Federal Regulations Part 91 as a personal flight. Visual meteorological conditions prevailed for the flight, and no flight plan was filed.

Witnesses reported that the helicopter was flying in a south-west direction over the property of Woodland Church. The helicopter appeared normal as it neared the church, then the helicopter "turned sideways," banked to the left, and descended to the ground. One witness stated that he heard a breaking sound and saw the "back rotor" hanging.

PERSONNEL INFORMATION

The pilot, age 51, held a commercial pilot certificate with airplane single-engine land and instrument ratings. He held a second-class airman medical certificate that was issued on April 23, 2014, with the limitation that he must wear corrective lenses. On the application for this medical certification, the pilot reported that he had accumulated 2,300 total flight hours of which 150 hours were in the previous 6 months.

According to the pilot's logbook, he had accumulated a total of 48.5 hours total helicopter time at the time of the accident. The pilot began his helicopter training in a Schweizer 269C on September 28, 2014. He accumulated a total of 24.0 hours (including 2.5 hours of solo time) in the Schweizer before transitioning to the accident helicopter on December 18, 2014. He had accumulated 25.7 hours total time (including 11 hours of solo time) in the Safari at the time of the accident.

AIRCRAFT INFORMATION

The helicopter was constructed from a kit produced by Safari Helicopter. It was a two-seat, skid-equipped helicopter with two composite main rotor blades that rotated clockwise and a tail rotor for anti-torque control. The helicopter was equipped with an Aero Sport O-360 engine. Components such as the main rotor head and the tail rotor would typically be delivered to the customer fully assembled.

The accident helicopter, serial number CH2181, was built by the owner of Safari Helicopters on March 1, 2010. A special airworthiness certificate for the helicopter was issued by the FAA on March 6, 2010. The helicopter was sold about 5 days later to a private individual who owned the helicopter until the accident pilot purchased it on November 6, 2014.

METEOROLOGICAL INFORMATION

At 1153, the George Bush Intercontinental Airport (KIAH) automated surface reporting system, located 17 miles southeast of the accident site, reported the following weather conditions: calm winds, 10 miles visibility, ceiling broken at 2,500 ft, temperature 8§C, dew point 3§C, and altimeter 30.93 inches of mercury.

WRECKAGE AND IMPACT INFORMATION

The NTSB investigator-in-charge (IIC) did not travel to the accident scene. According to photographs taken by the FAA on-site, the main wreckage consisting of the fuselage, main rotor, tail and tail rotor came to rest at the fenceline of a treed area. The horizontal stabilizer had separated from the tail boom and was found about 65 feet northeast of the fuselage. The right door frame was found about 85 feet northeast of the fuselage.

The helicopter wreckage was examined at the facilities of Air Salvage of Dallas on February 24-25, 2015, under the supervision of the NTSB IIC. The examination revealed that the horizontal stabilizer's spar (a steel tube) had separated at the weld area just outboard of a round steel plate (the stabilizer mounting flange) that was welded to the spar. The fracture exhibited signatures of corrosion and fatigue at the weld line. The inboard portion of the spar remained bolted to the tail boom at the mounting flange. Paint transfers were observed on one tail rotor blade. These transfers were located on the side of the blade where the horizontal stabilizer would be mounted. Additionally, both tail rotor blades exhibited impact damage on the leading and trailing edges of the blades.

Flight control continuity was established from the cockpit flight controls through the tail rotor system. The control pedal cable leading from the tail rotor assembly to the right control pedal was found in the full right control pedal position. (In this helicopter, the right pedal is used to counter the torque of the main rotor.) The stationary swash plate (controlling right/left, fore, and aft cyclic) was fractured and separated at all three push-pull tubes. The right door upper and lower hinges were intact, and the upper and lower latching points appeared normal.

The governor friction clutch was found loose. The friction clutch was found to rotate freely and was characterized by a Safari Helicopter representative as slightly loose. According to the Safari Helicopter representative, an excessively loose friction clutch could prevent effective throttle manipulation by the governor, and an overly tight friction clutch could prevent the pilot from over-riding the governor. An instructor pilot for Safari who had recently flown with the accident pilot in the accident helicopter stated that the governor appeared to operate properly.

Engine continuity was confirmed by turning the crankshaft to establish compression at all four cylinders. The four top and four bottom spark plugs were removed from the engine. All eight spark plugs appeared unremarkable. The magneto was turned by hand and sparked at all four connection wires.

The carburetor was in the full throttle position. Blue colored fuel (consistent in appearance with 100 low-lead aviation fuel) was found in the carburetor. The gascolator and carburetor fuel filter screens were void of contaminants. The air filter was examined and appeared unremarkable.

Main Rotor System

The main transmission pinion, tail rotor output shaft, and clutch assembly were separated from the main transmission and free of their mountings. The bottom of the clutch assembly showed evidence of a rotational impact of the clutch drive plate on one of the six clutch drum mount bolts consistent with rotation at the time of impact.

Both composite main rotor blades were deformed upward. One main rotor blade was broken through the laminate and spar about 2 feet outboard of the grip; however, the brass rod along the leading edge was intact but severely deformed. Both main rotor blades exhibited impact marks along the outboard 3 to 4 feet of the leading edges. The main rotor blades rotated normally about the feathering axis when rotated by hand at the grips.

The shear line from the transmission to the main rotor shaft was intact consistent with movement of the gears of the main shaft. The drive gear was still coupled to the shaft.

Tail Section

Impact marks on the tail structure and tail rotor drive shaft were observed. The damage was consistent with a right to left main rotor strike, when looking forward.

The tail rotor drive shaft was impacted at 14.5 inches aft of the forward edge of the fifth bearing frame. The fractured end of the tail was near the forward end of the tail boom. The sixth bearing, along with the tail rotor input coupling and the aft end of the drive shaft (about 24 inches) were missing.

The tail rotor output from the main transmission spun freely; however, the bearings did not rotate smoothly. The tail rotor pitch arms were fastened in their grips. The tail rotor pitch links were deformed and still attached.

Flight Deck Observations

The ignition switch was found in the right ("R") position. A test of the magneto switch and the ignition module pin (#1) indicted the electronic ignition was open, and the magneto was grounded. Only the electronic ignition would have been operating at this switch setting.

The helicopter had warning indicator bulbs for the main rotor, tail rotor, governor, fuel low, and low oil pressure; examination of all five bulbs revealed that none exhibited the typical filament stretching found when a bulb is lit at impact.

MEDICAL AND PATHOLOGICAL INFORMATION

An autopsy of the pilot was conducted under the authority of Montgomery County Forensic Services, Conroe, Texas. The cause of death for the pilot was attributed to "multiple blunt injuries."

The FAA Bioaeronautical Sciences Research Laboratory, Oklahoma City, Oklahoma, performed toxicology testing for the pilot. The pilot's toxicology results were negative for carbon monoxide and alcohol. The medications colchicine, doxazosin, and valsartan were detected.

The pilot reported use of doxasozin and valsartan on his most recent FAA medical examination. Both of these prescription medications are used to treat high blood pressure and are not considered to pose a hazard to flight safety. The prescription medication colchicine, which is used to prevent and/or relieve the pain from gout attacks in adults, was not reported previously to the FAA. Some possible side effects of colchicine include nausea, diarrhea, stomach cramps, and weakness.

TESTS AND RESEARCH

Horizontal Stabilizer

The horizontal stabilizer and the tail rotor cross and sleeve assembly were sent to the NTSB Materials Laboratory in Washington, DC, for further examination.

The phenolic sleeve on the tail rotor cross was fractured at the end flange. Examination of the flange fracture revealed a brittle overstress separation with no indications of discontinuities.

The spar tube of the horizontal stabilizer was fractured just outboard of the mounting flange and adjacent to the inboard edge of the airfoil section. The forward side of the end plate was bent slightly outboard but no impact damage was apparent on either the end plate or the airfoil skin of the stabilizer.

As manufactured, the mounting flange of the spar is welded (on the outboard side) to the spar tube and positioned immediately adjacent to the inboard edge of the airfoil skin. As assembled, the fracture location and weld are partially hidden by the airfoil skin and not directly visible.

Most of the fracture followed the outboard edge of the mounting flange weld. As initially received, large areas of both fracture faces were obscured by red and brown corrosion products. These surfaces were cleaned for a more detailed examination. Magnified optical examinations of the fracture surfaces identified features consistent with fatigue cracking. Three fatigue origins were found on the outer surface of the spar tube at the outboard toe (edge) of the assembly weld. The fatigue propagated generally radially through the wall thickness with some circumferential spreading. The fatigue cracking progressed through about half of the total spar cross section. The fatigue origins and propagation were all on the aft portion of the spar. No corrosion or other obvious damage was apparent at any of the origins.

Examinations also uncovered a rust-covered crack slightly inboard of and undercutting the main fracture plain. The undercutting crack intersected the outboard fatigue and formed part of the overall fracture. Magnified examinations of the crack faces without opening revealed fatigue features with at least one fatigue origin on the outer surface of the spar. The crack morphology was consistent with additional fatigue origins in the unopened portion of the crack.

The remaining fracture surface displayed separation features and deformation patterns consistent with overstress separation. The deformation pattern was consistent with forces associated with the stabilizer tip moving forward and outboard.

Visually, the weld exhibited good workmanship with no apparent undercutting, weld cracking, or surface discontinuities. A small pore and a single area of lack of fusion were uncovered by the weld fracturing in the overstress regions.

The inboard fracture face was viewed using a scanning electron microscope (SEM) after it was cleaned and the corrosion removed. The fracture area near one fatigue origin point displayed a corrosion-damaged surface, while fracture two other surfaces were much less damaged by corrosion and displayed features consistent with fatigue cracking in alloy steels.

Energy dispersive x-ray spectra of the spar material acquired during SEM examinations were typical of an AISI2 4100 series alloy steel as indicated on the stabilizer engineering drawing.

Ignition System

Examinations of the LSE Plasma III CD Ignition Module (S/N: 43546), the Hall Effect Module (S/N: 1440), and the ignition coils (P/N: 356120) were conducted on March 31, 2015, at the facilities of Light Speed Engineering in Santa Paula, California, with NTSB oversight. No evidence of preimpact mechanical malfunction was noted during the examinations.

Handheld GPS Device

A Garmin GPSMAP 296 hand-held GPS device was retrieved from the accident site and sent to the NTSB Recorders Laboratory for examination. No tracklog information was present on the device after download using the manufacturer procedures.

ADDITIONAL INFORMATION

As a result of the fatigue cracking of the horizontal stabilizer spar found during this investigation, Safari Helicopter issued a mandatory inspection and modification bulletin titled, "Horizontal Stabilizer Mandatory Inspection and Modification," on April 6, 2015. The bulletin specified a liquid penetrant inspection (LPI) of the horizontal stabilizer as follows:

"On helicopters in operation less than 24 months, this inspection should be accomplished at the next annual condition or 100-hour inspection. On helicopters older than 24 months, the inspection should be accomplished before next flight. This inspection should be added to the annual condition inspection for your particular aircraft."

The bulletin stated that, if cracking was found on the horizontal stabilizer spar, it must be replaced with a new spar. If no cracking was found during LPI inspection, Safari indicated that a steel tube insert must be installed into the end of the stabilizer to extend the "full length of the tail boom mount."

The bulletin also noted that the loss of the horizontal stabilizer "would change the attitude of the helicopter." Given that the stabilizer provides a downward-acting force on the tail section of the helicopter, this attitude change would be experienced by the pilot as an abrupt, uncommanded nose-down pitch.

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Accident Rpt# GAA17CA557 09/26/2017 1250 EDT Regis# N184SJ Orange, MA Apt: Orange Muni ORE
Acft Mk/Mdl BELLET JAMES J VANS RV Acft SN 81645 Acft Dmg: SUBSTANTIAL Rpt Status: Prelim Prob Caus: Pending
Fatal 0 Ser Inj 0 Flt Conducted Under: FAR 091
Opr Name: BELLET, JAMES J. Opr dba: Aircraft Fire: NONE

National Transportation Safety Board - Aircraft Accident/Incident Database

Accident Rpt# GAA17CA567 09/06/2017 1330 EDT Regis# N1214J Dunkirk, NY Apt: Chautauqua County/dunkirk DKK
Acft Mk/Mdl CHANCEY GERRY M RV-12-NO SERIES Acft SN 120054 Acft Dmg: SUBSTANTIAL Rpt Status: Prelim Prob Caus: Pending
Fatal 0 Ser Inj 0 Flt Conducted Under: FAR 091
Opr Name: EMMERLING, FRANCIS Opr dba: Aircraft Fire: NONE

National Transportation Safety Board - Aircraft Accident/Incident Database

Accident Rpt# CEN18LA002 10/02/2017 1515 CDT Regis# N818PB Mccoy, TX
Acft Mk/Mdl CHARLES A BRAZIL MTO SPORT-NO Acft SN M01394 Acft Dmg: SUBSTANTIAL Rpt Status: Prelim Prob Caus: Pending
Fatal 0 Ser Inj 1 Flt Conducted Under: FAR 091
Opr Name: BRAZIL CHARLES A Opr dba: Aircraft Fire: NONE

Events

1. Landing - Collision during takeoff/land
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Narrative

On October 2, 2017, about 1515 central daylight time, an MTO Sport gyroplane, N818PB, impacted a power line and terrain near McCoy, Texas. The student rated pilot received serious injuries and the gyrocopter was substantially damaged during the accident. The gyrocopter 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 at the time.

The initial report from the responding Federal Aviation Administration (FAA) inspector indicated that the pilot was landing near his residence, when the left landing gear caught a power line. The gyrocopter then impacted a roadway; coming to rest on its right side.

The airplane was retained for further examination.

National Transportation Safety Board - Aircraft Accident/Incident Database

Accident Rpt# ERA16LA270	07/24/2016 915 EDT	Regis# N750AZ	Waynesburg, PA	Apt: Greene County WAY
Acft Mk/Mdl CRAIG D CARTER STOL CH 750-NO SERIE	Acft SN 75-8188	Acft Dmg: SUBSTANTIAL	Rpt Status: Factual	Prob Caus: Pending
Eng Mk/Mdl CONTINENTAL O-200-A EXP	Acft TT 107	Fatal 0	Ser Inj 0	Flt Conducted Under: FAR 091
Opr Name: DANIEL D SMITH	Opr dba:		Aircraft Fire: NONE	AW Cert: SPE

Events

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

Narrative

On July 24, 2016, about 0915 eastern daylight time, an experimental amateur-built Zenith STOL CH 750, N750AZ, was substantially damaged during a forced landing following a loss of engine power during the initial climb after takeoff from Greene County Airport (WAY), Waynesburg, Pennsylvania. The flight instructor and a student pilot were not injured. Visual meteorological conditions prevailed, and no flight plan was filed for the local instructional flight conducted under the provisions of 14 Code of Federal Regulations Part 91.

The purpose of the flight was for the student pilot and flight instructor to practice touch-and-go landings. After about 0.8 hours of touch-and-go landings, they added 8 gallons of fuel. During the ensuing climb, about 1/2-mile beyond the runway at 300 feet, the engine began to vibrate and lose power. The instructor took control of the airplane and decided to land straight ahead. He noted that there was no oil pressure, normal oil temperature, and decreasing engine rpm. He elected to perform a forced landing on the midfield of the Green County Fairgrounds.

During the landing roll, the airplane impacted tractor tires and the landing gear folded back. Examination of the wreckage by a Federal Aviation Administration (FAA) inspector revealed damage to the wing spar and wing struts. Delaminating of the composite propeller, consistent with impact damage, was also noted.

The airplane was equipped with a Continental O-200-A EXP, 100-horsepower engine, which was examined by an FAA inspector. The accessory section, and oil pump was removed for inspection, with no noted anomalies; about 5 quarts of oil was drained from the oil sump. The oil filter was opened and free of debris. The oil pressure sending unit was removed and tested, no malfunction was observed. Thumb compression was obtained on all cylinders. The #2 cylinder had lower compression than the other cylinders. Engine powertrain continuity was established and no anomalies that would have precluded normal operation were observed. Fuel drained from the wing tanks were free of debris or contamination.

The closest weather reporting facility was the about 15 miles north of the accident site. At 1035, the weather conditions reported at Washington County Airport (AFJ) included temperature 29 degrees C; dewpoint 23 degrees C.

According to a statement provided by the flight instructor, the carburetor heat was not used during takeoff, "as recommended in the pilot manual," and "carburetor heat was applied at the first sign of vibration and power reduction." After applying carburetor heat and noting the loss of RPM, the instructor turned the carburetor heat off to get as much power from the engine as possible to extend their glide range.

An FAA carburetor icing probability chart indicated the temperature and dew point conditions were conducive to the formation of serious icing at glide power, and icing at glide and cruise power.

According to the FAA Pilot's Handbook of Aeronautical Knowledge, carburetor ice occurs due to the effect of fuel vaporization and the decrease in air pressure in the carburetor's venturi, which can cause a sharp temperature decrease in the carburetor. If water vapor in the air condenses when the carburetor temperature is at or below freezing, ice may form on the internal surfaces of the carburetor, including the throttle valve. This then restricts the flow of the fuel/air mixture and reduces engine power. Generally, the first indication of carburetor icing in an airplane with a fixed-pitch propeller is a decrease in engine rpm, which may be followed by engine roughness. Under certain conditions, carburetor ice can build unnoticed until power is added.

The handbook further described that carburetor heat is an anti-icing system that preheats the air before it reaches the carburetor, and is intended to keep the fuel/air mixture above the freezing temperature to prevent the formation of carburetor ice. Carburetor heat can be used to melt ice that has already formed in the carburetor if the accumulation is not too great, but using carburetor heat as a preventative measure is the better option.

National Transportation Safety Board - Aircraft Accident/Incident Database

Accident Rpt# CEN17LA368	09/25/2017 1727 CDT	Regis# N5112S	Cleburne, TX	Apt: Blackwood TX46
Acft Mk/Mdl ERIS E. ERVIN QUICKSILVER-GT 400S	Acft SN 1419	Acft Dmg: DESTROYED	Fatal 1	Rpt Status: Prelim Prob Caus: Pending
Eng Mk/Mdl ROTAX 503 DCDI		Ser Inj 0	Flt Conducted Under: FAR 103	
Opr Name: JADE C. ROGERS	Opr dba:	Aircraft Fire: NONE		AW Cert: LTSP

Events

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

On September 25, 2017, about 1730 central daylight time, a Quicksilver GT 400S ultralight aircraft, N5112S, impacted terrain in Cleburne, Texas. The uncertificated pilot, the sole occupant on board, was fatally injured. The aircraft was destroyed. The aircraft was registered to and operated by the pilot as a Title 14 Code of Federal Regulations Part 103 personal flight. Visual meteorological conditions existed at the accident site. The local flight originated from Blackwood Airport (TX46), Cleburne, Texas, about 1725.

Preliminary information indicates the aircraft took off on runway 17 from TX46. During the initial climb out, the engine lost power. The pilot turned in an attempt to return to the airport. Control was lost and the aircraft impacted terrain behind an apartment complex.

National Transportation Safety Board - Aircraft Accident/Incident Database

Accident Rpt# GAA17CA435	07/22/2017 1200 CDT	Regis# N91JG	Denison, TX	Apt: North Texas Rgnl/perrin Field GYI
Acft Mk/Mdl GILBERT THOMAS JEFFREY LANCAIR	Acft SN 090	Acft Dmg: SUBSTANTIAL	Rpt Status: Factual	Prob Caus: Pending
Eng Mk/Mdl LYCOMING O-235	Acft TT 327	Fatal 0	Ser Inj 0	Flt Conducted Under: FAR 091
Opr Name: ERNEST R. GILES	Opr dba:	Aircraft Fire: NONE	AW Cert: SPE	

Events

1. Takeoff - Loss of control on ground
-

Narrative

The pilot of the experimental amateur-built airplane reported that, he was unfamiliar with the airplane, and that during a pre-purchase flight, he was accompanied by an aircraft mechanic/pilot familiar with the airplane.

The mechanic, seated in the right seat, instructed him to anticipate adding right rudder when increasing power during takeoff. During takeoff, the pilot applied right rudder; however, he reported that once full power was applied the airplane continued to veer to the left. The pilot added that, there was a verbal communication shared between the two pilots that they "both were applying right rudder and simultaneous aileron."

The pilot then pulled the mixture control to shutoff the engine, however, the airplane continued off the left side of the runway, he heard a loud "pop," the airplane then veered to the right, the landing gear collapsed, and the airplane came to rest off the right side of the runway.

The airplane sustained substantial damage to the fuselage and rudder.

The pilot reported that he believed there was a "mechanical" failure, causing the airplane to not respond to inputs from the right rudder, right brake, and right aileron; and that the left brake or bearing seized causing enough friction to overcome the control inputs.

According to the mechanic, the airplane was not equipped with rudder/brake pedals on the right side, and that prior to the flight the pilot had used the brakes effectively to taxi for takeoff. He further stated, "all brakes were in good shape, and everything was in good operational condition."

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

The automated weather observation system on the accident airport reported, that about the time of the accident, the wind was 190ø at 7 knots. The pilot was departing on runway 17L.

National Transportation Safety Board - Aircraft Accident/Incident Database

Accident Rpt# ERA17LA031	10/29/2016 1600 EDT	Regis# N27832	New Bern, NC	Apt: N/a
Acft Mk/Mdl HADDOW WILLIAM H PITTS SPECIAL S	Acft SN WHPS-0086	Acft Dmg: SUBSTANTIAL	Rpt Status: Factual	Prob Caus: Pending
Eng Mk/Mdl LYCOMING IO-360	Acft TT 170	Fatal 0 Ser Inj 0	Flt Conducted Under: FAR 091	
Opr Name: MARCO BOUW	Opr dba:	Aircraft Fire: NONE		AW Cert: SPE

Events

1. Maneuvering-aerobatics - Loss of control in flight
-

Narrative

On October 29, 2016, about 1600 eastern daylight time, an experimental, amateur-built Pitts Special S-1, N27832, was substantially damaged when it impacted a river, following a loss of control during aerobatic flight near Coastal Regional Airport (EWN), New Bern, North Carolina. The commercial pilot incurred minor injuries. The airplane was registered to and operated by the commercial pilot as a personal flight conducted under the provisions of 14 Code of Federal Regulations Part 91. Visual meteorological conditions prevailed and no flight plan was filed for the local flight that departed EWN about 1545.

The pilot reported that he was practicing aerobatics about 3 miles northeast of EWN, over the Neuse River. During the maneuvers, as he input left aileron, the control stick was stiff and he believed he observed abnormal movement of the upper left aileron. He then applied more force to free the control stick and input right aileron; however, the airplane continued to roll left and entered a spin. The pilot was unable to recover from the spin and subsequently parachuted from the airplane. Both the pilot and the airplane came to rest in the Neuse River.

Examination of the wreckage by a Federal Aviation Administration (FAA) inspector and the pilot revealed substantial damage to the wings and fuselage. They also noted that a majority of the left wings, including the ailerons and aileron control tubes, were not recovered from the river. As such, control continuity could not be verified.

The single-seat, bi-wing, fixed-tailwheel airplane, was assembled from a kit and issued an FAA experimental airworthiness certificate in 1994. Its most recent annual conditional inspection was completed on July 21, 2016. At that time, the airplane had accrued 170 total hours.

National Transportation Safety Board - Aircraft Accident/Incident Database

Accident Rpt# ERA17FA339	09/28/2017 1122 EDT	Regis# N152AH	Umatilla, FL	Apt: N/a		
Acft Mk/Mdl HICKOX ANDY ANDYS GYROPLANE-NO S	Acft SN 1263063-1	Acft Dmg: DESTROYED	Fatal 1	Ser Inj 0	Rpt Status: Prelim	Prob Caus: Pending
Eng Mk/Mdl SUBARU 2.2					Flt Conducted Under: FAR 091	
Opr Name: JAMES M. PENSINGER		Opr dba:			Aircraft Fire: NONE	
					AW Cert: SPE	

Events

1. Enroute-cruise - Part(s) separation from AC

Narrative

On September 28, 2017, about 1122 eastern daylight time, an experimental amateur-built gyroplane, N152AH, impacted a wooded area near Umatilla, Florida. The private pilot was fatally injured and the gyroplane was destroyed. The gyroplane was being operated under the provisions of 14 Code of Federal Regulations (CFR) Part 91 as a personal flight. Visual meteorological conditions prevailed at the time and no flight plan was filed for the local flight which originated about 1000 from Bob White Field Airport (X61), Zellwood, Florida.

A witness at a nearby bee farm reported seeing the gyroplane fly over his position in a north-northwesterly direction. The witness reported the engine was running, and he heard 2 popping sounds, followed 1 large pop sound, and then the engine lost total power. At that time, while about 50 to 60 ft above the tree tops, the witness observed a large main rotor blade separate. The gyroplane began descending and he lost sight but then heard an impact. He drove to the accident site and informed the property owner of the accident.

Nearly the full length of one main rotor blade was found about 193ø and 333 ft from the main wreckage. The wreckage was recovered and the fractured main rotor blade were retained for further examination.

National Transportation Safety Board - Aircraft Accident/Incident Database

Accident Rpt# ERA15LA133 02/19/2015 1835 AST Regis# N5196W Rincon, PR Apt: N/a
Acft Mk/Mdl JOHNSON JOEL H RANS S-6ES COYOTE Acft SN 0492295 Acft Dmg: SUBSTANTIAL Rpt Status: Factual Prob Caus: Pending
Eng Mk/Mdl ROTAX 582 Acft TT 882 Fatal 1 Ser Inj 0 Flt Conducted Under: FAR 091
Opr Name: ANTONIO ZAPATA Opr dba: Aircraft Fire: NONE
AW Cert: SPE

Summary

The private pilot had just purchased the experimental, amateur-built airplane on the day of the accident following a short flight with the previous owner. The pilot purchased premium automobile gasoline at a local gas station and refueled the airplane for the flight to his home airport. He and his passenger then boarded the airplane and taxied for takeoff. After takeoff, the pilot climbed the airplane along the shoreline to about 1,000 ft above sea level. About 20 minutes into the flight, the pilot noticed that the engine was not producing enough power to sustain level flight, so he began to troubleshoot while he flew a course parallel to the shoreline over shallow water. Due to people and rocks along the shoreline, he decided not to land on the beach, but to ditch the airplane in the water. Upon touchdown, the airplane decelerated and sank. The pilot released his seatbelt, egressed, and swam to the surface. When the pilot reached the surface, he did not see his passenger. He swam back down to the wreckage, released the passenger's seatbelt, and swam him up to the surface. However, the passenger was not breathing and cardiopulmonary resuscitation was unsuccessful. Examination of the airplane's fuel system revealed that the single fuel filter located between the electric fuel pump and the primer plunger was full of sand and debris, which obstructed the mesh filter screen. The condition of the filter indicated that it was not being maintained and inspected regularly, even though the fuel filter had a transparent housing and was in a location that allowed it to be inspected easily. The airplane build manual, engine operator's manual, engine installation manual, and engine maintenance manual all called for frequent inspection of the fuel filter. According to the maintenance manual, the flow through the filter could be restricted due to long-term buildup of dirt, and the fuel filter should be inspected every 25 hours of operation and replaced every 100 hours of operation. Review of the airplane's maintenance records found no entries indicating the inspection or replacement of the fuel filter since 2009, when a new engine was installed. The airplane's most recent condition inspection was performed about 3 months before the accident.

Cause Narrative

THE NATIONAL TRANSPORTATION SAFETY BOARD DETERMINED THAT THE CAUSE OF THIS OCCURRENCE WAS: The inadequate maintenance and inspection of the fuel system, which resulted in partial blockage of a fuel filter, a partial loss of engine power, and subsequent ditching.

Events

1. Prior to flight - Aircraft maintenance event
2. Prior to flight - Aircraft inspection event
3. Maneuvering - Loss of engine power (partial)
4. Emergency descent - Ditching

Findings - Cause/Factor

1. Aircraft-Aircraft systems-Fuel system-Fuel filter-strainer-Not serviced/maintained - C
2. Personnel issues-Task performance-Maintenance-Scheduled/routine maintenance-Owner/builder - C
3. Personnel issues-Task performance-Inspection-Scheduled/routine inspection-Owner/builder - C
4. Personnel issues-Task performance-Maintenance-Scheduled/routine maintenance-Maintenance personnel - C

Narrative

HISTORY OF FLIGHT

On February 19, 2015, about 1835 Atlantic standard time, an experimental, amateur-built Rans S-6ES Coyote II, N5196W, ditched in the waters of the Mona Passage after a partial loss of engine power near Rincon, Puerto Rico. The private pilot sustained minor injuries, and the passenger was fatally injured. The airplane sustained substantial damage. Visual meteorological conditions prevailed, and no flight plan was filed for the local personal flight operated under the provisions of 14 Code of Federal Regulations Part 91, which departed Eugenio Maria de Hostos Airport (TJMZ), Mayaguez, Puerto Rico, about 1815.

According to the pilot, he arrived at TJMZ on the day of the accident about 1600 to purchase the airplane. After a short test flight of about 15 to 20 minutes, he paid the owner for the airplane. He then received a telephone call from his brother-in-law and invited him to come out to the airport for a short flight to show him the airplane he had just purchased. The pilot left the airport about 1802, purchased premium automobile gasoline for the airplane at a local gas station, and refueled the airplane. After the refueling process was complete, about 1815, he and his brother-in-law (the passenger) boarded the airplane and taxied out for takeoff. The pilot verified that the gasoline valve was on and conducted a magneto check. After takeoff, they climbed to about 1,000 ft above sea level.

About 20 minutes into the flight, the pilot noticed that the engine was not producing enough power to sustain flight. The engine never lost power completely, but

National Transportation Safety Board - Aircraft Accident/Incident Database

it would not produce full power, so he began to troubleshoot while he flew a course that would place the airplane parallel to the shoreline over shallow water near Rincon. He saw that there were people and sharp rocks along the shoreline, so he decided not to land on the beach but to ditch the airplane in the water. He maneuvered the airplane until it was 4 to 6 ft above the water, set the wing flaps to 20°, stalled the airplane, and touched down on the surface of the water. Upon touchdown, the airplane decelerated and sank but did not nose over. The pilot released his seatbelt and, about 5 seconds later, was able to egress and swim to the surface.

When the pilot reached the surface, he did not see his passenger. He swam back down to the wreckage, released the passenger's seatbelt and swam him up to the surface, but the passenger was not breathing. By this time, a person on a boogie board had reached them. They placed the passenger on the boogie board and paddled him to the beach. Cardio pulmonary resuscitation was performed but was unsuccessful.

PERSONNEL INFORMATION

The pilot held a Federal Aviation Administration (FAA) private pilot certificate with a rating for airplane single-engine land. His most recent FAA third-class medical certificate was issued on September 8, 2014. He reported that he had accrued about 609 total flight hours.

AIRCRAFT INFORMATION

The airplane was a kit-built, two-seat, high-wing, airplane. The cockpit was constructed of welded 4130 steel tubing, and the rear fuselage was constructed of bolted aluminum tubing. The wings and tail surfaces were covered in presewn Dacron envelopes. The airplane was equipped with tricycle-type landing gear.

The airplane was assembled from a kit by the original owner and issued an FAA special airworthiness certificate on April 18, 1994. At the time of issuance, the airplane was powered by a Volkswagen air-cooled engine, driving a composite, ground-adjustable IVO propeller. Shortly thereafter, the Volkswagen engine was replaced with a Rotax 582 engine that had been manufactured in November 1990.

On March 5, 2006, in Cartersville, Georgia, the airplane was involved in an accident (NTSB Case No. ATL06LA048) during an instructional flight. The NTSB determined that the probable cause of the accident was: "The loss of engine power during cruise flight for undetermined reasons, which resulted in a forced landing, on ground collision with a ditch, and nose over."

On March 7, 2006, the airplane was sold by the original owner, and over the next 2 years, the airplane was owned by a succession of individuals in the continental US. On March 8, 2008, the engine was replaced with another Rotax 582 engine. Later that year, the airplane was shipped to Puerto Rico.

On April 20, 2009, a liquid-cooled, 64-horsepower, Rotax 582 Mod 99 engine, with dual carburetors and dual ignition, driving a three-blade, Warp Drive, ground-adjustable propeller was installed. Over the next 5 years, the airplane was once again owned by a succession of owners, until March 5, 2014, when it was sold to the previous owner, who operated it for about 11 months and sold it to the pilot on the day of the accident.

The airplane's most recent condition inspection was completed on November 26, 2014. At the time of the inspection, the airplane had accrued 881.5 total hours of operation, and the engine had accrued 191.5 total hours of operation.

METEOROLOGICAL INFORMATION

At 1750, the reported weather at Rafael Hernandez Airport (TJBQ), Aguadilla, Puerto Rico, located 11 nautical miles northeast of the accident site, included: wind 310° at 9 knots, 7 miles visibility in light rain, scattered clouds at 1,000 ft, broken clouds at 2,100 ft, overcast clouds at 5,000 ft, temperature 23°C, dew point 22C, and an altimeter setting of 29.99 inches of mercury.

WRECKAGE AND IMPACT INFORMATION

On February 21, 2015, the wreckage of the airplane was recovered from about 20 ft of water about 200 ft off the beach near Rincon and transported to the Port of Mayaguez.

Examination of the airplane and engine revealed that the firewall and engine mounts were bent and broken, and the engine had been removed during the

recovery. Both carburetors were displaced from their mounting positions, the coolant lines had been cut, and all spark plugs had sustained impact damage. The propeller was still attached to the engine gearbox, and all three propeller blades remained attached to the propeller hub. Surface corrosion could be seen on all exposed aluminum parts of the airplane, which was consistent with the airplane's submergence in sea water.

Engine

Examination of the intake system revealed that the air filters were the proper type but had suffered damage from impact or recovery of the wreckage from the ocean, and the element pleats were packed with dirt and sand.

Examination of the exhaust system revealed that a large section of the exhaust system was missing. Only the exhaust "Y" pipe, the first portion of exhaust system which connected both cylinders to a single section of exhaust pipe and held the two exhaust gas metering probes, was still attached to the engine.

Examination of the spark plugs and dual capacity discharge ignition system revealed that the spark plugs were impact damaged, had non-conforming removable resistor caps, and had rust-colored water droplets on them, which was indicative of sea water being present in the combustion chambers. The ignition modules were of the proper type and in good physical condition. The ignition wires also of the proper type and had incurred impact damage.

Examination of the coolant system revealed that the overflow bottle was missing; all the coolant hoses were breached; the water pump was intact; and the coolant radiator was still attached to the firewall but was heavily damaged. There was no evidence of coolant remaining in the system.

Examination of the injection oil lubrication system revealed that it had been disconnected and was no longer operational. This required the pilot to premix the fuel with oil at a 50:1 ratio before pouring it into the airplane's fuel tanks.

Examination of the rotary lubrication system revealed that the system and the oil tank were contaminated with sea water, and the perpendicular shaft and rotary valve plate were corroded due to submersion.

An attempt to rotate the crankshaft by turning the propeller shaft by hand to establish thumb compression and drivetrain continuity was unsuccessful. The propeller shaft would not rotate indicating that something internally was preventing this action. The propeller was removed, and the engine was placed on a work bench for further inspection and disassembly.

Examination of the reduction gearbox revealed that lubrication gear oil was still contained within the gearbox, and the gear-set and bearings appeared to be in good condition.

Examination of the combustion chamber revealed that the cylinder heads were in good physical condition. Examination of the power takeoff side (PTO) cylinder and the magneto side (MAG) cylinder revealed that the cylinder heads were in good physical condition. Both displayed a reddish coating of iron oxide (rust) on the barrel surface. No seizure marks or mechanical anomalies could be seen on either the PTO or MAG cylinders. Due to the stuck position of the crankshaft, the MAG piston could not be removed from its connecting rod, and the crankcase could not be spilt open. Inspection of the crankshaft and connecting rods was done through the connecting rod holes in the crank case. Corrosion from submergence in sea water was found on the connecting rods and crankshaft, and this was determined to be the reason the crankshaft could not be rotated. Other than the surface corrosion from the salt water submersion, no anomalies were found with the crankshaft, connecting rods, or bearings.

Examination of the PTO piston through the exhaust port revealed severe corrosion and salt deposits. The piston was stuck in the top dead center position; it could not be rotated to reveal the condition of the piston rings or cylinder bore; and it displayed a reddish colored coating of iron oxide (rust). There were no signs of vertical scoring, metal transfer, or excessive heat signatures seen on the exhaust side of the PTO piston. There were no indications of piston seizure, detonation, or mechanical anomalies.

Examination of the MAG piston through the exhaust port also revealed severe corrosion and salt deposits. The piston was stuck in the bottom dead center position and could not be rotated to reveal the condition of the side of the piston. The cylinder bore, top of the piston, and piston rings were exposed and could be examined for anomalies. Severe corrosion and salt deposits could be seen on all the metal surfaces, and the piston rings were stuck in their respective ring groove lands. As with the PTO piston, the MAG piston also had a reddish coating of iron oxide (rust) on its surface, and no indication of a piston seizure, detonation, or mechanical anomalies was discovered.

Fuel System

The fuel system included a primer plunger, an electric fuel pump, a pneumatic engine driven fuel pump, a fuel filter, and two carburetors. Breaches in the fuel system were found in the lines between the pneumatic fuel pump and the carburetors and between the fuel tank and the electric fuel pump. No preimpact anomalies were found with the fuel lines.

Both fuel tanks displayed internal dark stains and damage from impact or recovery of the airplane from the ocean.

No anomalies were found with the electric fuel pump, the primer plunger, or the pneumatic fuel pump.

The fuel filter was located between the electric fuel pump and the primer plunger. The fuel filter was examined for obstruction and blockage, and it was found full of sand and debris that appeared to be obstructing the mesh filter screen. The fuel filter had a transparent housing for easy inspection, and it was located on the left side of the fuselage next to where the pilot's left leg would be positioned. The fuel filter's location allowed for easy access for daily inspection.

The engine was equipped with dual Bing 54, side-draft carburetors with no external manual mixture control. The carburetors were examined for condition, conformity, and proper components. Since the carburetors were found displaced from the engine due to impact, the carburetor position angle relative to the crankshaft could not be determined.

The PTO carburetor float bowl was removed to examine the internal condition and jet size. Severe contamination and corrosion was found inside the carburetor float bowl because of submersion of the engine in salt water. The main jet was removed and found to be completely blocked with corrosion and salt deposits. The sieve screen was found crushed around the main jet tower. This was indicative of poor installation as the sieve screen should be allowed to freely move up and down. The top of the carburetor was removed to inspect the jet needle, but the piston was stuck in its bore due to severe corrosion. Other than the crushed sieve screen, corrosion, and water contamination, no anomalies were found with the PTO carburetor.

The MAG carburetor float bowl was removed to examine the internal condition and jet size. Severe contamination and corrosion was found inside the carburetor float bowl because of submersion of the engine in salt water. The main jet was removed and found to be completely blocked with corrosion and salt deposits. The sieve screen in this carburetor was also found crushed around the main jet tower. The top of the carburetor was removed to inspect the jet needle, but the piston was stuck in its bore due to severe corrosion. Other than the crushed sieve screen, corrosion, and water contamination, no anomalies were found with the MAG carburetor.

MEDICAL AND PATHOLOGICAL INFORMATION

The Puerto Rico Institute of Forensic Sciences performed an autopsy on the passenger. The passenger's cause of death was asphyxiation by drowning. Toxicological testing of the passenger was conducted at the FAA Bioaeronautical Sciences Research Laboratory, Oklahoma City, Oklahoma. The specimens from the passenger were negative for carbon monoxide. Loratadine, a non-sedating tricyclic antihistamine, was detected in blood. Ranitidine, an antihistamine used in the treatment of gastric acid secretion, was detected in blood and urine.

TESTS AND RESEARCH

The Rans S-6ES Build Manual, under the "Fuel System" subsection of the "Inspection of Engine Systems" section called for a check for "fuel filter clogs."

The Rotax Operators Manual stated, "check engine suspension frequently as well as the drive components, fuel lines, wiring, and fuel and air filters." Under "Daily Checks," it stated, "inspect all fuel hose connections, filters, primer bulbs and taps for security, leakage, chafing and kinks."

The Rotax Installation Manual also stated, "check engine suspension frequently as well as the drive components, fuel lines, wiring, and fuel and air filters." It stated, "fuel contamination is a major cause of engine failures. The best place to avoid contamination is at the source. Once fuel is in your container, a very hazardous potential exists. Use a clean safety approved storage container. Filter all fuel entering and leaving this container." (It is unknown what method, if any, the previous owners used to filter fuel before filling the airplane's fuel tanks).

The Rotax Maintenance Manual also stated, "check engine suspension frequently as well as the drive components, fuel lines, wiring, and fuel and air filters." The maintenance schedule required that the fuel filter be checked every 25, 50, and 75 hours of operation and be replaced every 100 hours of operation. Section 11.8, "Check and Replacement of Fuel Filter" stated, "the flow through the filter may be restricted due to long term buildup of dirt. A more serious type of blockage, which can occur quite rapidly is caused by a reaction between detergents in certain two-stroke oils and water in the fuel. Both types of blockage may be difficult to detect visually. If blockage is suspected, renew fuel filter or filter element. Subsequently avoid water contamination of fuel." Examination of the airplane and engine maintenance records did not find any entries related to the fuel filter.

Based on the engine serial number, the engine was manufactured on April 17, 2008. The Rotax Maintenance Manual (Section 10.2 - Maintenance Schedule) stated that general overhaul of the engine should be carried out every 5 years, or every 300 hours, whichever comes first. Maintenance records did not indicate that the engine had been overhauled since its installation in 2009.

National Transportation Safety Board - Aircraft Accident/Incident Database

Accident Rpt# GAA17CA287	05/12/2017 1540 PDT	Regis# N1111E	Austin, NV	Apt: Austin TMT
Acft Mk/Mdl JOHNSON KENNETH W SUPER CUB	Acft SN 471C	Acft Dmg: SUBSTANTIAL	Rpt Status: Factual	Prob Caus: Pending
Eng Mk/Mdl LYCOMING O-323-B2B	Acft TT 778	Fatal 0 Ser Inj 0	Flt Conducted Under: FAR 091	
Opr Name: DORY JOE	Opr dba:	Aircraft Fire: NONE		AW Cert: SPX

Events

2. Landing - Loss of control in flight

Narrative

The pilot reported that he had been practicing touch and go landings along with short takeoffs and landings in gusting wind conditions. On the forth landing the airplane encountered a wind gust and he lost directional control of the airplane. He attempted to go-around but the left wing struck the desert brush and the airplane spun to the left. The airplane nosed over and came to rest inverted. Substantial damage was sustained to both wings, the rudder and the horizontal stabilizer.

Per the National Transportation Safety Board Pilot Aircraft Accident Report, the pilot reported that the accident could have been prevented by, "in the wind conditions, I should have carried a little more airspeed to help with the gusts."

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

National Transportation Safety Board - Aircraft Accident/Incident Database

Accident Rpt# ERA15LA332 08/30/2015 1055 EDT Regis# N864KM Fort Lauderdale, FL Apt: N/a
Acft Mk/Mdl LANCAIR IV-P Acft SN LIV-166 Acft Dmg: DESTROYED Rpt Status: Factual Prob Caus: Pending
Eng Mk/Mdl CONTINENTAL TSIO-550-E1B Acft TT 1617 Fatal 0 Ser Inj 1 Flt Conducted Under: FAR 091
Opr Name: KENNETH MCKENZIE Opr dba: Aircraft Fire: GRD
AW Cert: SPE

Summary

The pilot stated that, during the climb to cruise altitude, he noticed a loss of engine oil pressure. He declared an emergency with air traffic control (ATC) and requested to return to the airport. After ATC acknowledged, the pilot advised ATC that he lost all engine power and had to make an emergency landing. During the forced landing, the airplane collided with a ditch and was destroyed by postcrash fire. An examination of the engine revealed that it failed catastrophically, displaying signatures of lubrication distress; further, no measurable quantity of oil could be recovered from within the engine. Detailed examination of the engine's turbochargers revealed that one of the two units displayed evidence of burnt oil on the external surface and evidence of a foreign material in the unit's center housing, on the thrust bearing, and on the thrust collar. The foreign material was identified as polyethylene (plastic), similar to that used to protect the exposed orifices of the engine during shipment. Review of maintenance records revealed that the pilot/mechanic had replaced both turbochargers with overhauled units two days before the accident flight. The turbocharger overhauler provided installation instructions and warnings that, in part, stated, "Remove all protective caps and plugs BEFORE installing this turbocharger." The foreign material discovered within the turbocharger's center housing suggests that the protective plastic cap at the oil outlet was likely not removed during the installation. It is likely that the turbocharger center housing filled with oil, which then flowed out of the engine via the turbocharger housing backplate, resulting in oil starvation and the subsequent total loss of engine power.

Cause Narrative

THE NATIONAL TRANSPORTATION SAFETY BOARD DETERMINED THAT THE CAUSE OF THIS OCCURRENCE WAS: The mechanic's improper installation of the turbocharger assembly, which resulted in oil starvation and a subsequent total loss of the engine power.

Events

1. Prior to flight - Aircraft maintenance event
2. Initial climb - Powerplant sys/comp malf/fail
3. Initial climb - Loss of engine power (partial)
4. Emergency descent - Loss of engine power (total)
5. Emergency descent - Off-field or emergency landing
6. Landing-landing roll - Collision with terr/obj (non-CFIT)

Findings - Cause/Factor

1. Aircraft-Aircraft power plant-Turbocharging (recip only)-Turbocharger-Incorrect service/maintenance - C
2. Aircraft-Aircraft power plant-Engine (reciprocating)-Recip engine power section-Failure - C
3. Personnel issues-Task performance-Maintenance-Installation-Maintenance personnel - C

Narrative

On August 30, 2015, about 1055 eastern daylight time, an experimental amateur-built Lancair IV-P, N564KM, was destroyed by collision with terrain and a postcrash fire during a forced landing after takeoff from the Fort Lauderdale Executive Airport (FXE), Fort Lauderdale, Florida. The commercial pilot sustained serious injuries, and the passenger was not injured. The privately owned and operated airplane was operated under the provisions of 14 Code of Federal Regulations Part 91 as a personal flight. Visual flight rules conditions were reported at the airport about the time of the accident, and an instrument flight rules flight plan had been filed for the flight destined for Lynchburg Regional Airport (LYH), Lynchburg, Virginia.

According to the pilot, during a climb to cruise he noticed that the engine's oil pressure dropped to 9 psi. He declared an emergency with air traffic control (ATC) due to the low oil pressure indication and requested to return to FXE. ATC provided radar vectors and cleared the airplane for the visual approach to runway 9. Shortly thereafter, the pilot contacted the FXE tower controller and reported an "engine failure." The pilot made a forced landing on a levee located 5 miles west of the approach end of runway 9. During the landing rollout, the airplane veered off the levee, collided with a ditch, and caught fire.

The airplane was recovered and the engine was retained for examination. During the examination of the engine puncture holes were discovered in both upper crankcase halves. Further examination revealed that no measurable amount oil could be drained from the engine. All of the spark plugs were removed and displayed a sooty appearance. The cylinders were removed and the cylinder attaching hardware torque and break away torque was checked and found within manufactures specifications; the No. 1, No. 2 and No. 3 pistons and cylinder skirts were damaged. The No. 1 piston exhibited signatures consistent with a valve strike on the dome. The oil sump was removed and contained pieces of connecting rod, rod bolts, rod bearing, and aluminum material in the bottom of the sump.

The crankcase was separated and the main bearings were not damaged. All of the bearing tabs were intact and no fretting was noted on the thru-bolt bosses. There was no evidence of bearing shift and the crankcase mating surfaces were machined. Puncture holes were also noted on bottom right crankcase half below the No. 1 cylinder. No obstructions were found in the crankcase oil galleries. Prior to removal, the camshaft was bent forward of the rear journal.

The crankshaft was removed and disassembled, the main journals had a normal operating appearance. The No. 1 connecting rod journal was found burnt and deformed. The No. 4 connecting rod journal was found burnt; the No. 2, No. 3, No. 5 and No. 6 connecting rod journals had a normal operating appearance. Examination of the connecting rod bearings revealed the No. 1 rod bearing was located in oil sump and found burnt and wiped. The No. 4 rod bearing was found burnt and wiped but was still contained within the rod and cap; No.2, No. 3, No. 5, and No.6 rod bearings indicated signs of lubrication distress.

The oil pump was disassembled and scoring was present in the internal oil pump housing and oil pump gear facing. Metal contamination was present in the oil relief valve. The oil filter was removed and opened for examination. The filter element exhibited metal contamination (aluminum & steel).

A visual examination of both turbochargers revealed one turbocharger had a normal grayish coloration on the internal turbine blades, while the other turbocharger was found blackend and oily on the turbine and compressor impeller blades.

The turbochargers were sent to Hartzell Engine Technologies for further examination and identified as turbo A (serial No. tKL01420), and turbo B (serial No. KFN00434). Examination of the turbo A revealed the turbocharger was overhauled by Main Turbo Systems. The turbocharger rotating assembly spun freely with no indication of compressor or turbine rub. Both the axial and radial end play was within specification. The turbocharger assembly was consistent with the design data and there was no evidence of mechanical malfunction. The internal lubrication passages were present with no indications of concern. The turbocharger was dry and displayed evidence of internal and external corrosion.

Examination of turbo B revealed that it was also overhauled by Main Turbo Systems. The turbocharger rotating assembly spun freely with no indication of compressor or turbine rub. Both the axial and radial end play was within specification. The turbocharger assembly was consistent with the design data and there was no evidence of mechanical malfunction. The internal lubrication passages were present with no indications of concern. There was evidence of foreign material in the center housing, on the thrust bearing, and on the thrust collar. Evidence of "burnt" oil was discovered on the external surfaces of turbocharger. The turbo was dissembled and it was revealed that oil residue was evident on the backside of the compressor wheel. Further examination also revealed oil residue on the turbo backplate.

A review of the engine logbook entries revealed that both turbochargers were removed and replaced by the pilot/mechanic with overhauled units two days prior to the accident flight. The entry in the logbook noted, "three engine test runs/operational checks and conducted leak check in accordance with SB no. 23, dated Feb 8, 2006. No leak/discrepancies noted at this time."

An examination of the foreign material located in the center housing of the turbo was conducted. The unknown material was examined using a Fourier Transform Infrared (FTIR) spectrometer with a diamond attenuated total reflectance (ATR) accessory in accordance to ASTM E1252-98 (American Society for Testing Materials E1252- 98). The spectrum was consistent with a straight-chained aliphatic hydrocarbon. A spectral library search found a very strong spectral match to polyethylene.

During the shipment of the turbochargers, polyethylene protective caps and plugs were used to plug the oil line openings. These protective caps and plugs must be removed before installation. The turbocharger overhauler provided instruction and warning tags with the units, one of which stated, "Remove all protective caps and plugs BEFORE installing this turbocharger."

National Transportation Safety Board - Aircraft Accident/Incident Database

Accident Rpt# ERA16LA177	04/30/2016 1556 EDT	Regis# N7044Q	Worcester, MA	Apt: Worcester Rgnl ORH
Acft Mk/Mdl MAHER DANIEL J VELOCITY-SE		Acft SN DM100	Acft Dmg: SUBSTANTIAL	Rpt Status: Factual Prob Caus: Pending
Eng Mk/Mdl LYCOMING IO-360		Acft TT 870	Fatal 0 Ser Inj 0	Flt Conducted Under: FAR 091
Opr Name: JAMES A. SIELIS		Opr dba:		Aircraft Fire: NONE
				AW Cert: SPE

Events

1. Landing-flare/touchdown - Landing gear collapse

Narrative

On April 30, 2016, about 1556 eastern daylight time, an experimental amateur-built Velocity SEFG, N7044Q, was substantially damaged during landing at Worcester Regional Airport (ORH), Worcester, Massachusetts. The airline transport pilot and passenger were not injured. Visual meteorological conditions prevailed, and no flight plan was filed for the local personal flight conducted under the provisions of 14 Code of Federal Regulations Part 91

According to the pilot, immediately after nose wheel contact upon landing, the nose wheel fork separated from the nose wheel landing gear strut, and the airplane began skidding on the bottom of the nose landing gear strut. After the separation of the nosewheel fork, the pilot applied held backpressure on the control stick, which resulted in a propeller strike.

The pilot stated that he had purchased the airplane in November 2015. There were no preflight anomalies noted before the local area flight, and no mechanical or performance deficiencies before the final full-stop landing. There was no record of any maintenance done on the nose landing gear fork.

Examination of photographs revealed the airplane rested on the nose landing gear strut with the nose wheel and its mounting fork separated. The nose wheel remained in the fork and the nose gear fork was fractured at the gear mount attach point. The propeller tips were damaged, and parallel slash marks consistent with a propeller strike were visible on the runway surface prior to where the airplane came to rest. The composite airframe structure at the nose landing gear strut attach point had also fractured, and had punctured the cockpit footwell, which resulted in substantial damage to the airframe.

Further examination of the nose landing gear fork revealed it fractured from overstress. The manufacturer stated that this part and design had been modified twice because of similar fractures, as it had been discovered that excessive nose landing gear shimmying would result in overstress fractures. The first redesign included a dampener consisting of bellville washers to reduce stress on the nose fork. The next iteration included a hydraulic dampener. In addition to changing the design of the nose fork, the new parts were made of a different material.

The accident airplane did not have either modification installed, and was the original nose fork installed on the airplane.

National Transportation Safety Board - Aircraft Accident/Incident Database

Accident Rpt# CEN17LA061	12/27/2016 1230 CST	Regis# N918KS	Farmington, MO	Apt: Farmington Rgnl FAM
Acft Mk/Mdl MEAD RV 8A		Acft SN 81947	Acft Dmg: SUBSTANTIAL	Rpt Status: Factual Prob Caus: Pending
Eng Mk/Mdl SUPERIOR XP-360-A1A2		Acft TT 393	Fatal 0 Ser Inj 0	Flt Conducted Under: FAR 091
Opr Name: PILOT		Opr dba:		Aircraft Fire: NONE

Summary

The airline transport pilot reported that all indications were normal during takeoff in the experimental amateur-built airplane. The airplane accelerated normally and became airborne, then the left wing raised, which the pilot assumed was the result of the left crosswind conditions. He applied a correction to the left; however, he overcorrected and the airplane entered a steep left bank. After regaining control of the airplane, the pilot noted that the airplane was about 600 feet from the runway heading, and he thought that the airplane was too low to correct back to runway heading. The pilot reduced power to land on airport property; however, the terrain was rough and the left wing sustained substantial damage during the landing. The pilot stated that there were no mechanical malfunctions or anomalies that would have precluded normal operation of the airplane.

Cause Narrative

THE NATIONAL TRANSPORTATION SAFETY BOARD DETERMINED THAT THE CAUSE OF THIS OCCURRENCE WAS: The pilot's failure to maintain airplane control during takeoff in crosswind conditions.

Events

1. Takeoff - Collision during takeoff/land

Findings - Cause/Factor

1. Environmental issues-Conditions/weather/phenomena-Wind-Gusts-Response/compensation - C
2. Personnel issues-Task performance-Use of equip/info-Aircraft control-Pilot - C
3. Environmental issues-Conditions/weather/phenomena-Wind-Gusts-Effect on operation - C

Narrative

On December 27, 2016, about 1230 central standard time, a Mead RV 8A experimental amateur-built airplane, N918KS, impacted terrain during takeoff at the Farmington Regional Airport (FAM), near Farmington, Missouri. The pilot was uninjured and his passenger sustained minor injuries. The airplane sustained substantial wing damage. The airplane was registered to and operated by the pilot under the provisions of 14 Code of Federal Regulations Part 91 as a personal flight. Day visual meteorological conditions prevailed for the flight, which did not operate on a flight plan. The local flight was originating from FAM at the time of the accident.

The pilot reported that engine starting was normal and that he had checked the weather during the taxi to runway 2. Normal indications were observed during the engine runup. He performed "takeoff checks" and taxied onto the runway. After adding full power, the indications were all normal during the takeoff roll. The airplane accelerated normally, the pilot rotated the airplane at 65 mph, and the airplane lifted off. The left wing came up immediately after takeoff. The pilot "assumed" it was from wind and some gust. He applied a correction to the left. However, the correction was "steep" and he applied another correction to get the airplane's wings level. The airplane was off the prepared runway surface and the pilot stated that the airplane was too low to correct back to the runway. The pilot reduced power to land on airport property. However, the terrain was rough and sloped downward during the landing. The left wing sustained substantial damage during the landing. The pilot indicated that there were no mechanical malfunctions associated with the airplane.

At 1256, the recorded weather at FAM was: Wind 340 at 9 knots; visibility 10 statute miles; sky condition clear; temperature 9 degrees C; dew point -6; altimeter 30.27 inches of mercury.

A Federal Aviation Administration inspector examined the wreckage. No anomalies were detected that could not be attributed to impact damage.

National Transportation Safety Board - Aircraft Accident/Incident Database

Accident Rpt# ERA16LA301 08/26/2016 1450 EDT Regis# N48KM Iron Station, NC Apt: Lincolnton-lincoln County Rgnl IPJ
Acft Mk/Mdl MEANS ROBER C ROTORWAY EXEC Acft SN 3363 Acft Dmg: SUBSTANTIAL Rpt Status: Factual Prob Caus: Pending
Eng Mk/Mdl ROTORWAY 152 Acft TT 255 Fatal 0 Ser Inj 0 Flt Conducted Under: FAR 091
Opr Name: JERRY SCRUGGS Opr dba: Aircraft Fire: NONE
AW Cert: SPE

Summary

The private pilot said that, while in a hover during the fifth of a series of test flights, the experimental amateur-built helicopter pitched up and to the left and began transitioning rearward. He corrected with a full, right-forward cyclic input, yet the helicopter continued to transition to its rear until it struck a hangar. The helicopter continued inside the open hangar, collided with an airplane, and came to rest on its left side. The helicopter sustained substantial damage to the cockpit, fuselage, and tail boom. The pilot reported the helicopter had performed "flawlessly" prior to the loss of control. Before the test flights, the helicopter was configured with a ballast weight located on the right skid as prescribed in the pilot operating handbook for solo operation. Following the accident, the forward section of the right main landing gear tube, with the counterweight ballast attached, was found between where the helicopter hovered for the test, and where it came to rest inside the hangar. The tube's fracture surface features were consistent with overstress, and no indications of preexisting cracking or corrosion were observed. Given the location of the separated skid tube after the accident, it is likely that the skid contacted the ground while hovering, which resulted in an overstress separation of the skid tube and attached counterweight. This subsequently resulted in a sudden center of gravity (CG) shift outside the normal operating CG range and a loss of control.

Cause Narrative

THE NATIONAL TRANSPORTATION SAFETY BOARD DETERMINED THAT THE CAUSE OF THIS OCCURRENCE WAS: The pilot's failure to maintain adequate clearance from the ground while hovering, which resulted in separation of the forward section of the right skid tube with counterweight attached, a sudden center of gravity (CG) shift outside the normal operating range, and a subsequent loss of control.

Events

1. Maneuvering-hover - Low altitude operation/event
2. Maneuvering-hover - Loss of control in flight

Findings - Cause/Factor

1. Aircraft-Aircraft oper/perf/capability-Performance/control parameters-Altitude-Not attained/maintained - C
2. Aircraft-Aircraft systems-Landing gear system-Aux gear (tail/rotorcft skid)-Damaged/degraded - C
3. Aircraft-Aircraft oper/perf/capability-Aircraft capability-CG/weight distribution-Not specified - C

Narrative

On August 26, 2016, about 1450 eastern daylight time, an experimental amateur-built Rotorway Exec, N48KM, was substantially damaged following a loss of control while in hovering flight at Lincolnton-Lincoln County Regional Airport (IPJ), Iron Station, North Carolina. The private pilot sustained minor injuries. Visual meteorological conditions prevailed and no flight plan was filed for the local maintenance test flight which was conducted under the provisions of Title 14 Code of Federal Regulations Part 91.

According to the pilot, the purpose of the flight was to confirm the dynamic track and balance condition of the main rotor system following the replacement of elastomeric bearings in the main rotor hub. Four ground and hover tests had been performed previous to the accident flight.

In an interview with a Federal Aviation Administration (FAA) aviation safety inspector, the pilot said that while at a hover, the helicopter pitched up, to the left, and began transitioning rearward. He corrected with a full, right-forward cyclic input, yet the helicopter continued to transition to its rear until it struck a hangar. The helicopter continued inside the open hangar, collided with an airplane, and came to rest on its left side. The helicopter sustained substantial damage to the cockpit, fuselage, and tailboom.

Prior to the flights, the helicopter was configured with a ballast weight located on the right skid as prescribed in the pilot operating handbook (POH) for solo operation. Following the accident, the forward section of the right main landing gear tube, with counterweight ballast attached, was found between the positions of the helicopter where it hovered for the test, and where it came to rest.

Examination of the helicopter by FAA inspectors confirmed cyclic and collective control continuity. Additionally, the pilot reported that the helicopter had operated "flawlessly" up until the time of the accident.

The helicopter's most recent condition inspection was completed on July 22, 2016, at 254 total aircraft hours.

The pilot held a private pilot certificate with ratings for airplane single engine land and rotorcraft-helicopter. His most recent Federal Aviation Administration (FAA) third-class medical certificate was issued on March 14, 2016. He reported 600 total hours of flight experience, of which 500 were in the accident helicopter make and model.

Weather reported at the time of the accident included winds from 080 degrees at 4 knots, 10 statute miles visibility, clear skies, temperature 34 degrees C, dew point 17 degrees C, and an altimeter setting of 30.11 inches of mercury.

The forward section of the right main landing gear tube was forwarded to the NTSB Materials Laboratory in Washington, DC for examination. According to the Material Engineer's report, "The features on the fracture surface of the separated end were consistent with overstress. No indications of preexisting cracking or corrosion were observed."

National Transportation Safety Board - Aircraft Accident/Incident Database

Accident Rpt# GAA17CA447	07/19/2017 1030 EDT	Regis# N489MG	Louisburg, NC	Apt: Ball 79NC
Acft Mk/Mdl MICHAEL DEAN GRISSOM GRISSOM	Acft SN 01	Acft Dmg: SUBSTANTIAL	Rpt Status: Factual Prob Caus: Pending	
Eng Mk/Mdl CONTINENTAL A-65-8	Acft TT 42	Fatal 0 Ser Inj 0	Flt Conducted Under: FAR 091	
Opr Name: MICHAEL DEAN GRISSOM	Opr dba:	Aircraft Fire: NONE		AW Cert: SPE

Events

1. Landing - Landing area undershoot
-

Narrative

The pilot reported that, during the landing, the airplane "landed short and hard". Subsequently, the main landing gear collapsed.

The airplane sustained substantial damage to the right wing lift strut.

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# GAA17CA240	04/21/2017 1610 PDT	Regis# N661RP	Wenatchee, WA	Apt: Pangborn Memorial EAT
Acft Mk/Mdl PARLETTE ROBERT L GLASTAR-NO	Acft SN 5620	Acft Dmg: SUBSTANTIAL	Fatal 0	Rpt Status: Factual Prob Caus: Pending
Eng Mk/Mdl SUPERIOR XP-360		Ser Inj 0	Flt Conducted Under: FAR 091	
Opr Name: ROBERT L. PARLETTE	Opr dba:		Aircraft Fire: NONE	
			AW Cert: SPE	

Events

4. Approach-VFR pattern crosswind - Loss of control in flight

Narrative

The pilot of the tundra tire-equipped, tailwheel airplane reported that, the airplane landed hard and "bounced pretty good". He applied power to go-around, but during the crosswind turn, a downdraft pushed the airplane to the ground, and subsequently the airplane impacted trees.

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

After multiple requests, the pilot did not return the National Transportation Safety Board Form 6120.1 Pilot/Operator Aircraft Accident/Incident Report as requested.

A review of recorded data from the automated weather observation station, located on the airport, reported that about 15 minutes before the accident the wind was from 170° at 7 knots, gusting 16 knots. It's unknown which direction the airplane was landing.

National Transportation Safety Board - Aircraft Accident/Incident Database

Accident Rpt# GAA17CA458A	07/28/2017 1315 PDT	Regis# N16MR	Spokane, WA	Apt: Fairchild Afb SKA
Acft Mk/Mdl RANDALL MARVIN L VANS RV		Acft SN 811-3	Acft Dmg: SUBSTANTIAL	Rpt Status: Factual Prob Caus: Pending
Eng Mk/Mdl SUPERIOR SLO-320-A1XC2		Acft TT 2105	Fatal 0 Ser Inj 0	Flt Conducted Under: FAR 091
Opr Name: DAVID D. MYERS		Opr dba:		Aircraft Fire: NONE
				AW Cert: SPE

Events

1. Taxi-from runway - Ground collision
-

Narrative

Following a formation flight and landing of four airplanes, the pilots reported that, while taxiing to park, the lead airplane reduced power to idle and the engine quit.

After multiple attempts to restart the engine, the lead pilot signaled the other pilots to pass on the left side, and continue to parking. As the 2nd airplane taxied past, the 3rd airplane followed.

The pilots added that, the 3rd airplane had limited forward visibility due to the nose attitude of the airplane, and the pilot was unaware that the lead airplane was stationary. Subsequently, the 3rd airplane passed the lead airplane with insufficient clearance, resulting in the 3rd airplane's right-wing colliding with the lead airplane's left elevator, and the propeller from the 3rd airplane struck the lead airplane's left wing.

The lead airplane sustained substantial damage to the left wing and left elevator.

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

National Transportation Safety Board - Aircraft Accident/Incident Database

Accident Rpt# ERA15LA373	09/24/2015 1050 EDT	Regis# N179V	Lake Wales, FL	Apt: Lake Wales X07
Acft Mk/Mdl VANEK JIM SPORT COPTER VORTEX-	Acft SN 007	Acft Dmg: SUBSTANTIAL	Fatal 0	Rpt Status: Factual Prob Caus: Pending
Eng Mk/Mdl ROTAX 582		Ser Inj 0	Fit Conducted Under: FAR 091	
Opr Name: LODGE JOHN M	Opr dba:	Aircraft Fire: NONE		AW Cert: SPE

Summary

During the initial climb, the sport pilot of the gyroplane noticed that the engine began to lose power, and he attempted to return to the airport. The engine continued to lose power and the pilot made a forced landing in a field. During the landing sequence, the gyroplane rolled over and sustained damage to the airframe. Examination of the wreckage revealed that the fuel primer line was brittle and disconnected. The pilot stated that all of the fuel lines had been recently replaced, with the exception of the primer line. It is likely that the disconnected fuel primer line caused an excessively lean air/fuel mixture ratio, which resulted in the loss of engine power during the climb.

Cause Narrative

THE NATIONAL TRANSPORTATION SAFETY BOARD DETERMINED THAT THE CAUSE OF THIS OCCURRENCE WAS: A loss of engine power due to a lean fuel/air mixture as a result of a disconnected fuel primer line.

Events

1. Initial climb - Loss of engine power (partial)
2. Emergency descent - Collision with terr/obj (non-CFIT)

Findings - Cause/Factor

1. Aircraft-Aircraft systems-Fuel system-Fuel distribution-Damaged/degraded - C

Narrative

On September 24, 2015, about 1050 eastern daylight time, an experimental amateur-built Sport Copter Vortex gyroplane, N179V, was substantially damaged following a collision with terrain during a forced landing near Lake Wales, Florida. The sport pilot sustained minor injuries. The gyroplane was privately owned and operated under the provisions of Title 14 Code of Federal Regulations Part 91. Visual meteorological conditions were reported at the airport about the time of the accident, and no flight plan was filed. The personal flight originated from the Lake Wales Municipal Airport (X07), Lake Wales, Florida, at 1045.

According to the pilot, he conducted an engine run-up prior to takeoff and all systems were normal. During the initial climb, he made a left crosswind turn and climbed to approximately 300 feet. He noticed that the engine began to lose power and made a left downwind turn in an attempt to return to the airport. The engine continued to lose power and the pilot attempted a forced landing in a field. During the landing sequence, the gyroplane rolled over and sustained damage to the airframe.

An examination of the gyroplane by a Federal Aviation Administration inspector revealed that the fuel line on the primer valve was brittle and disconnected. The primer was operated and fuel was noted to leak from the primer fitting. In a conversation with the pilot he said that all of the fuel lines had been previously replaced except the primer line. Correspondence with a representative of the engine manufacturer revealed that a breached primer line can create a lean air/fuel ratio, thus resulting in a loss of engine power.

National Transportation Safety Board - Aircraft Accident/Incident Database

Accident Rpt# ERA17LA340	09/28/2017 1909 EDT	Regis# N29909	Ocklawaha, FL	Apt: FA38
Acft Mk/Mdl WACO UPF 7-NO SERIES		Acft SN 5406	Acft Dmg: SUBSTANTIAL	Rpt Status: Prelim Prob Caus: Pending
Eng Mk/Mdl AMA/EXPR UNKNOWN ENG			Fatal 0 Ser Inj 1	Flt Conducted Under: FAR 091
Opr Name: HERB CLARK		Opr dba:		Aircraft Fire: NONE
				AW Cert: SPE

Events

1. Maneuvering - Loss of engine power (total)

Narrative

On September 28, 2017, about 1909 eastern daylight time, an experimental amateur-built Waco UPF 7, N29909, sustained substantial damage during a forced landing to wooded terrain after a total loss of engine power about 1.5 miles south of the Woods and Lakes Airpark (FA38), near Oklawaha, Florida. The commercial pilot/owner was seriously injured. Visual meteorological conditions prevailed and no flight plan was filed for the local flight conducted under 14 Code of Federal Regulations Part 91.

The pilot stated that while maneuvering, one of the engine's magnetos failed followed shortly after by the other magneto resulting in a total loss of engine power. He said that he tried to reach FA38, but realized he was not going to make it so he "surfed" the airplane into the tree tops. The pilot said he made a successful landing and the airplane came to rest gently in the trees before it nosed over and fell 60 ft to the ground and came to rest on its nose with the tail section sticking straight up in the air.

The pilot held a commercial certificate for airplane single-engine land and sea, and instrument airplane. His last Federal Aviation Administration (FAA) second-class medical was issued on October 6, 2016. At that time, he reported a total of 2,746 flight hours.

Weather at The Villages (VVG), The Villages, Florida, about 11 miles south of the accident site, at 1930, was reported as calm wind, visibility 10 miles, and clear skies.

National Transportation Safety Board - Aircraft Accident/Incident Database

Accident Rpt# GAA17CA458B	07/28/2017 1315 PDT	Regis# N6GT	Spokane, WA	Apt: Fairchild Afb SKA
Acft Mk/Mdl WILTS GAYLE T RV-3A-NO SERIES	Acft SN 811-1	Acft Dmg: SUBSTANTIAL	Rpt Status: Factual Prob Caus: Pending	
Eng Mk/Mdl LYCOMING AEIO-L-320EIB	Acft TT 2349	Fatal 0 Ser Inj 0	Flt Conducted Under: FAR 091	
Opr Name: VANGUARD SQUADRON INC	Opr dba:	Aircraft Fire: NONE		AW Cert: SPE

Events

1. Taxi-from runway - Ground collision

Narrative

Following a formation flight and landing of four airplanes, the pilots reported that, while taxiing to park, the lead airplane reduced power to idle and the engine quit.

After multiple attempts to restart the engine, the lead pilot signaled the other pilots to pass on the left side, and continue to parking. As the 2nd airplane taxied past, the 3rd airplane followed.

The pilots added that, the 3rd airplane had limited forward visibility due to the nose attitude of the airplane, and the pilot was unaware that the lead airplane was stationary. Subsequently, the 3rd airplane passed the lead airplane with insufficient clearance, resulting in the 3rd airplane's right-wing colliding with the lead airplane's left elevator, and the propeller from the 3rd airplane struck the lead airplane's left wing.

The lead airplane sustained substantial damage to the left wing and left elevator.

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