

National Transportation Safety Board - Aircraft Accident/Incident Database

Accident Rpt# GAA17CA371	06/24/2017 1715	Regis# N7662V	Morgan, UT	Apt: N/a
Acft Mk/Mdl AERO COMMANDER CALLAIR A 9		Acft SN 1390	Acft Dmg: SUBSTANTIAL	Rpt Status: Factual Prob Caus: Pending
Eng Mk/Mdl LYCOMING O-540-B2B5		Acft TT 4159	Fatal 0 Ser Inj 0	Flt Conducted Under: FAR 091
Opr Name: ELK MOUNTAIN SOARING LLC		Opr dba:		Aircraft Fire: NONE
				AW Cert: SPR

Summary

The pilot reported that, during a positioning flight, about 500 ft, he was flying along a highway, and the airplane struck transmission wires. He added that he turned back to the departure airport and landed without further incident.

The airplane sustained substantial damage to both wings.

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

According to an employee of the power company, the struck transmission wires were about 93 to 100 ft above the ground.

Cause Narrative

THE NATIONAL TRANSPORTATION SAFETY BOARD DETERMINED THAT THE CAUSE OF THIS OCCURRENCE WAS: The pilot's failure to see and avoid transmission wires.

Events

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

Findings - Cause/Factor

1. Personnel issues-Psychological-Attention/monitoring-Monitoring environment-Pilot - C
2. Environmental issues-Physical environment-Object/animal/substance-Wire-Effect on operation - C

Narrative

The pilot reported that, during a positioning flight, about 500 ft, he was flying along a highway and the airplane struck transmission wires. He added that he turned back to the departure airport and landed without further incident.

The airplane sustained substantial damage to both wings.

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

According to an employee of the power company, the struck transmission wires were about 93-100 ft above the ground.

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Accident Rpt# GAA17CA347 06/16/2017 1920 EDT Regis# N9404E Watervliet, MI Apt: Watervliet Muni 40C
Acft Mk/Mdl AERONCA 11AC Acft SN 11AC-1041 Acft Dmg: SUBSTANTIAL Rpt Status: Factual Prob Caus: Pending
Eng Mk/Mdl CONTINENTAL A&C 65 SERIES Fatal 0 Ser Inj 0 Flt Conducted Under: FAR 091
Opr Name: MALONEY, EDWARD M. Opr dba: Aircraft Fire: NONE
AW Cert: STN

Summary

The flight instructor reported that, during the takeoff climb from a grass runway with the student pilot flying, about 25 ft above ground the "climb rate became stagnant." He added that he instructed the student to "lower the nose slightly," but after "several seconds the airplane did not resume a normal climb rate." The flight instructor took the flight controls and noticed that they were "sluggish" and it felt as if the airplane was caught in "wind swirls" and downdrafts. Subsequently, the flight instructor made a "small left turn" toward a small gap in the tree line ahead and the airplane impacted a heavily wooded/treed area. The fuselage and both wings sustained substantial damage.

The flight instructor reported that there were no preaccident mechanical malfunctions or failures with the airplane that would have precluded normal operation. According to the flight instructor, the airplane departed "loaded at gross weight." The student pilot reported that the flight instructor did not discuss weight and balance with him before flight.

During postaccident interviews with the National Transportation Safety Board investigator-in-charge, the student and flight instructor each reported their personal weight and a total of 10 gallons of fuel on board at takeoff. Based upon the information provided, the takeoff weight was 1,389 lbs, which was 139 lbs over the maximum gross weight (1,250 lbs) published in the airplane Pilot's Operating Handbook. The airplane's center of gravity for takeoff was within limits at 18.65 (12.4 to 22.0).

An automated weather observation station 8 nautical miles (nm) southwest of the accident site reported that, about the time of the accident, the wind was from 200° at 5 knots, temperature 82°F (28°C), dewpoint 54°F (12°C), and barometric setting of 29.76 inches of mercury. The calculated density altitude 8 nm southwest was 2,648 ft. The flight instructor reported that they took off from runway 20, which was 2,600 ft long.

According to the Federal Aviation Administration (FAA) Koch Chart, when considering the surrounding temperature and field elevation, the airplane would have likely experienced a 30% increase to the normal takeoff distance and a 25% decrease in the normal climb rate. The airplane's POH did not publish takeoff performance information.

The FAA Pilot's Handbook of Aeronautical Knowledge stated, in part:

Effect of Weight on Flight Performance

The takeoff/climb and landing performance of an aircraft are determined on the basis of its maximum allowable takeoff and landing weights. A heavier gross weight results in a longer takeoff run and shallower climb, and a faster touchdown speed and longer landing roll. Even a minor overload may make it impossible for the aircraft to clear an obstacle that normally would not be a problem during takeoff under more favorable conditions.

Runway Surface and Gradient

Runway conditions affect takeoff and landing performance. Typically, performance chart information assumes paved, level, smooth, and dry runway surfaces. Since no two runways are alike, the runway surface differs from one runway to another, as does the runway gradient or slope.

Runway surfaces vary widely from one airport to another. The runway surface encountered may be concrete, asphalt, gravel, dirt, or grass. The runway surface for a specific airport is noted in the Chart Supplement U.S. (formerly Airport/Facility Directory). Any surface that is not hard and smooth increases the ground roll during takeoff. This is due to the inability of the tires to roll smoothly along the runway. Tires can sink into soft, grassy, or muddy runways. Potholes or other ruts in the pavement can be the cause of poor tire movement along the runway.

It is likely that the airplane was unable to clear trees at the end of the runway due to the decrease in takeoff performance, which resulted from the high density altitude, the turf runway, and a takeoff weight over maximum gross weight.

Cause Narrative

THE NATIONAL TRANSPORTATION SAFETY BOARD DETERMINED THAT THE CAUSE OF THIS OCCURRENCE WAS: The flight instructor's inadequate preflight planning, which resulted in a takeoff over maximum gross weight from a turf runway in high density altitude conditions and the airplane's inability to attain a climb rate and subsequent collision with trees.

Events

1. Prior to flight - Aircraft loading event
2. Initial climb - Miscellaneous/other
3. Initial climb - Collision with terr/obj (non-CFIT)

Findings - Cause/Factor

1. Personnel issues-Task performance-Planning/preparation-Weight/balance calculations-Instructor/check pilot - C
2. Personnel issues-Action/decision-Info processing/decision-Decision making/judgment-Instructor/check pilot - C

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3. Aircraft-Aircraft oper/perf/capability-Aircraft capability-Maximum weight-Capability exceeded - C
4. Aircraft-Aircraft oper/perf/capability-Performance/control parameters-Climb rate-Attain/maintain not possible - C
5. Environmental issues-Physical environment-Object/animal/substance-Tree(s)-Contributed to outcome
6. Environmental issues-Physical environment-Runway/land/takeoff/taxi surface-(general)-Contributed to outcome
7. Environmental issues-Conditions/weather/phenomena-Temp/humidity/pressure-High density altitude-Effect on operation

Narrative

The flight instructor reported that, during the takeoff climb from a grass runway with the student pilot flying, about 25 ft. above ground the "climb rate became stagnant." He added that he instructed the student to "lower the nose slightly," but after "several seconds the airplane did not resume a normal climb rate." The flight instructor took the flight controls and noticed that they were "sluggish" and it felt as if the airplane was caught in "wind swirls" and downdrafts. Subsequently, the flight instructor made a "small left turn" towards a small gap in the tree line ahead and the airplane impacted a heavily wooded/ treed area.

The fuselage and both wings sustained substantial damage.

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

According to the flight instructor, the airplane departed "loaded at gross weight." The student pilot reported that the flight instructor did not discuss weight and balance with him prior to flight.

During postaccident interviews with the NTSB investigator-in-charge (IIC), the student and flight instructor each reported their personal weight and a total of 10 gallons of fuel on board at takeoff. Based upon the information provided, the takeoff weight was 1,389 lbs., which was 139 lbs. over the maximum gross weight (1,250 lbs.) published in the airplane pilot's operating handbook (POH). The airplane's center of gravity for takeoff was within limits at 18.65 (12.4 to 22.0).

An automated weather observation station, 8 nautical miles (NM) southwest, about the time of the accident, reported the wind from 200° at 5 knots, temperature 82°F (28°C), dewpoint 54°F (12°C), and barometric setting of 29.76" Hg. The calculated density altitude 8 NM southwest was 2,648 ft. The flight instructor reported that they took off runway 20, which was 2,600 ft. in length.

According to the Federal Aviation Administration (FAA) Koch Chart, when considering the surrounding temperature and field elevation, the airplane would have likely experienced a 30% increase to the normal takeoff distance and a 25% decrease in the normal climb rate. The airplane's POH did not publish takeoff performance information.

The FAA Pilot's Handbook of Aeronautical Knowledge stated in part:

Effect of Weight on Flight Performance

The takeoff/climb and landing performance of an aircraft are determined on the basis of its maximum allowable takeoff and landing weights. A heavier gross weight results in a longer takeoff run and shallower climb, and a faster touchdown speed and longer landing roll. Even a minor overload may make it impossible for the aircraft to clear an obstacle that normally would not be a problem during takeoff under more favorable conditions.

Runway Surface and Gradient

Runway conditions affect takeoff and landing performance. Typically, performance chart information assumes paved, level, smooth, and dry runway surfaces. Since no two runways are alike, the runway surface differs from one runway to another, as does the runway gradient or slope.

Runway surfaces vary widely from one airport to another. The runway surface encountered may be concrete, asphalt, gravel, dirt, or grass. The runway surface for a specific airport is noted in the Chart Supplement U.S. (formerly Airport/Facility Directory). Any surface that is not hard and smooth increases the ground roll during takeoff. This is due to the inability of the tires to roll smoothly along the runway. Tires can sink into soft, grassy, or muddy runways. Potholes or other ruts in the pavement can be the cause of poor tire movement along the runway.

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Accident Rpt# GAA17CA381	06/04/2017	800 AKD	Regis# N82639	Soldotna, AK	Apt: N/a
Acft Mk/Mdl AERONCA 7AC-NO SERIES			Acft SN 7AC-1281	Acft Dmg: SUBSTANTIAL	Rpt Status: Factual Prob Caus: Pending
Eng Mk/Mdl CONT MOTOR A&C65 SERIES				Fatal 0 Ser Inj 0	Flt Conducted Under: FAR 091
Opr Name: BRENDA DALE			Opr dba:		Aircraft Fire: NONE
					AW Cert: STN

Summary

The pilot reported that, after landing on a gravel airstrip, during the taxi, a moose cow and calf ran onto the airstrip, moving from the pilot's right to left. She added that she veered to the left to avoid the animals and the airplane struck a tree.

The airplane sustained substantial damage to the fuselage.

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

Cause Narrative

THE NATIONAL TRANSPORTATION SAFETY BOARD DETERMINED THAT THE CAUSE OF THIS OCCURRENCE WAS: The pilot's abrupt maneuver to avoid a moose cow and calf during taxi, which resulted in an impact with a tree.

Events

1. Taxi-from runway - Miscellaneous/other
2. Taxi-from runway - Abrupt maneuver
3. Taxi-from runway - Collision with terr/obj (non-CFIT)

Findings - Cause/Factor

1. Personnel issues-Task performance-Use of equip/info-Aircraft control-Pilot - C
2. Environmental issues-Physical environment-Object/animal/substance-Tree(s)-Effect on operation - C

Narrative

The pilot reported that after landing on a gravel airstrip, during the taxi, a moose cow and calf ran onto the airstrip, moving from the pilot's right to left. She added that she veered to the left to avoid the animals and the airplane struck a tree.

The airplane sustained substantial damage to the fuselage.

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

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Accident Rpt# GAA17CA386	07/05/2017 1230 PDT	Regis# N31MX	Ely, NV	Apt: N/a
Acft Mk/Mdl ALEXANDER SCHLEICHER GMBH & CO	Acft SN 31003	Acft Dmg: DESTROYED	Rpt Status: Factual	Prob Caus: Pending
Eng Mk/Mdl DIAMOND AE50R	Acft TT 567	Fatal 0 Ser Inj 0	Flt Conducted Under: FAR 091	
Opr Name: HOLLIDAY, ROBERT R.	Opr dba:	Aircraft Fire: NONE		
		AW Cert: SPE		

Summary

The glider pilot reported that, while maneuvering about 10,000 ft mean sea level he "lost control," and the glider went into a spin, followed by a spiral. He added that he egressed from the glider, deployed his parachute, and was later rescued. The glider impacted terrain and was destroyed.

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

Cause Narrative

THE NATIONAL TRANSPORTATION SAFETY BOARD DETERMINED THAT THE CAUSE OF THIS OCCURRENCE WAS: The pilot's failure to maintain the proper airspeed and his exceedance of the glider's critical angle of attack, which resulted in a stall/spin.

Events

1. Maneuvering - Loss of control in flight
2. Maneuvering - Miscellaneous/other
3. Other - Collision with terr/obj (non-CFIT)

Findings - Cause/Factor

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

Narrative

The glider pilot reported that while maneuvering about 10,000 ft. mean sea level he "lost control" and the glider went into a spin, followed by a spiral. He added that he egressed from the glider, deployed his parachute, and was later rescued. The glider impacted terrain and was destroyed.

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

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Accident Rpt# GAA17CA391	07/01/2017 1520 CDT	Regis# N157WB	Ferguson, FL	Apt: Ferguson 82J
Acft Mk/Mdl AMERICAN CHAMPION AIRCRAFT		Acft SN 1139-2014	Acft Dmg: SUBSTANTIAL	Rpt Status: Factual Prob Caus: Pending
Eng Mk/Mdl LYCOMING AEIO-360-H1B		Acft TT 262	Fatal 0 Ser Inj 0	Flt Conducted Under: FAR 091
Opr Name: WRONG BROTHER AVIATOR TRAINING SCHOOL, LLC		Opr dba:		Aircraft Fire: NONE AW Cert: STA

Summary

The pilot reported that, during the landing roll on the grass runway, the airplane began to veer to the right before the tailwheel was down. He added that he applied left rudder; however, the airplane pitched forward, and the propeller struck the ground. Subsequently, the airplane came to rest inverted off the right side of the grass runway.

The airplane sustained substantial damage to the empennage and 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.

The automated weather observation system about 3 nautical miles from the accident site reported that, about the time of the accident, the wind was from 220° at 10 knots. The pilot landed on runway 18.

Cause Narrative

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

Events

1. Landing - Loss of control on ground
2. Landing - Attempted remediation/recovery
3. Landing - Runway excursion
4. Landing - Nose over/nose down

Findings - Cause/Factor

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

Narrative

The pilot reported that, during the landing roll on the grass runway, the airplane began to veer to the right before the tailwheel was down. He added that he applied left rudder; however, the airplane pitched forward and the propeller struck the ground. Subsequently, the airplane came to rest inverted off the right side of the grass runway.

The airplane sustained substantial damage to the empennage and 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.

The automated weather observation system about 3 nautical miles from the accident site, about the time of the accident, reported the wind from 220° at 10 knots. The pilot landed on runway 18.

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Accident Rpt# GAA17CA379 07/02/2017 1700 PDT Regis# N321MW Rio Vista, CA Apt: Rio Vista Muni O88
Acft Mk/Mdl AMERICAN GENERAL ACFT CORP AG5-B Acft SN 10105 Acft Dmg: SUBSTANTIAL Rpt Status: Factual Prob Caus: Pending
Eng Mk/Mdl LYCOMING O&VO-360 SER Acft TT 1880 Fatal 0 Ser Inj 0 Flt Conducted Under: FAR 091
Opr Name: JOHN R. TOTH Opr dba: Aircraft Fire: NONE
AW Cert: STN

Summary

The student pilot reported that, during his second low approach, the airplane was stable at 75 knots and full flaps and about 20 ft above ground level (agl). He added, that about 5 to 10 ft agl, he applied full power and began to "slowly" retract the flaps. Encountering what he described as "wind shear," he reported that the airplane became "vertical" and that he lost directional control. He added that he immediately banked to the right and applied full right rudder. Subsequently, the airplane's left wing struck the ground. The airplane came to rest off the right side of the runway.

The airplane sustained substantial damage to the left wing.

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

The student pilot reported checking the airport's automated weather observation system, which was reporting wind from 120ø at 12 knots, before the approach.

He further reported the sky condition as clear, temperature 84øF, dewpoint 53øF, and wind gusts to 20 knots. The pilot selected runway 15.

As a recommendation, the student pilot reported that he should have avoided areas with gusts greater than 10 knots.

Cause Narrative

THE NATIONAL TRANSPORTATION SAFETY BOARD DETERMINED THAT THE CAUSE OF THIS OCCURRENCE WAS: The student pilot's failure to maintain directional control during a go-around in gusting wind conditions.

Events

1. Approach-VFR go-around - Other weather encounter
2. Approach-VFR go-around - Loss of control in flight
3. Approach-VFR go-around - Attempted remediation/recovery
4. Approach-VFR go-around - Dragged wing/rotor/float/other
5. Approach-VFR go-around - Collision with terr/obj (non-CFIT)

Findings - Cause/Factor

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

Narrative

The student pilot reported that, during his second low approach, the airplane was stable at 75 knots and full flaps, about 20 ft. above the ground. He added, that about 5 to 10 ft. above the ground, he applied full power and began to "slowly" retract the flaps. Encountering what he described as "wind shear," he reported that, the airplane became "vertical" and he lost directional control. He added that, he immediately banked to the right and applied full right rudder, subsequently, the airplane's left wing struck the ground. The airplane came to rest off the right side of the runway.

The airplane sustained substantial damage to the left wing.

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

The student pilot reported checking the airport's automated weather observation system (AWOS), which was reporting wind from 120ø at 12 knots, prior to the approach. He further reported the sky condition as clear, temperature 84øF, dewpoint 53øF, and wind gusts to 20 knots. The pilot selected runway 15.

As a recommendation, the student pilot reported that he should have avoided areas with gusts greater than 10 knots.

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Accident Rpt# GAA17CA155	02/24/2017 1720 EST	Regis# N7423D	Statesville, NC	Apt: N/a
Acft Mk/Mdl BALLOON WORKS FIREFLY		Acft SN F7-291	Acft Dmg: NONE	Rpt Status: Factual Prob Caus: Pending
Eng Mk/Mdl BALLOON WORKS T3-017(BURNER)		Acft TT 327	Fatal 0 Ser Inj 1	Flt Conducted Under: FAR 091
Opr Name: CHARLES T. PAGE		Opr dba:		Aircraft Fire: NONE
				AW Cert: STB

Summary

The student pilot and flight instructor of the balloon were performing their ninth training flight. The instructor reported that, during the flight, the student made an approach to a grass field about 5 knots. During the landing, there were multiple touchdowns, and during the first, the balloon "rebounded back up" and touched down again about 65 ft northwest of the initial touchdown point. During the second touchdown, the student pilot put his right foot on the front of the basket to brace for the landing, and his left foot remained on the floor of the basket. The balloon touched down, and the student pilot rolled his ankle. The balloon "rebounded back up," and the flight instructor pulled the valve line to deflate the balloon. The balloon came to rest about 30 ft farther to the northwest. The student pilot sustained a broken ankle. The balloon did not sustain substantial damage.

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

Per the recommendation of the National Transportation Safety Board investigator-in-charge, the flight instructor reported the following:

In an effort to prevent an accident similar to the one that occurred with N7423D, I will brief student pilots as to the importance of bracing oneself correctly and that two feet on the floor during touch downs will provide better stability from the human factors perspective of balance. I will also discuss this event in future safety forums within the balloon community in order to enhance safety. It is my belief that these actions will help to prevent any future occurrences of this nature.

Cause Narrative

THE NATIONAL TRANSPORTATION SAFETY BOARD DETERMINED THAT THE CAUSE OF THIS OCCURRENCE WAS: The student pilot's decision to place one foot on the balloon basket and one foot on the floor during the landing, which resulted in a broken ankle.

Events

1. Landing-flare/touchdown - Dragged wing/rotor/float/other
2. Landing-flare/touchdown - Cabin safety event

Findings - Cause/Factor

1. Personnel issues-Action/decision-Info processing/decision-Decision making/judgment-Student/instructed pilot - C
2. Personnel issues-Task performance-Communication (personnel)-Issuing instructions-Instructor/check pilot

Narrative

The student pilot and flight instructor of the balloon, were performing their ninth training flight. The instructor reported that during the flight, the student made an approach to a grass field with the airspeed about 5 kts. During the landing there were multiple touch downs and during the first, the balloon "rebounded back up" and touched down again about 65 feet north-west of the initial touch down point. During the second touch down the student pilot put his right foot on the front of the basket to brace for the landing and his left foot remained on the floor of the basket. The balloon touched down and the student pilot rolled his ankle. The balloon "rebounded back up" and the flight instructor pulled the valve line to deflate the balloon. The balloon came to rest about 30 feet further to north-west. The student pilot sustained a broken ankle. The balloon did not sustain substantial damage.

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

Per the recommendation of the NTSB Investigator-in-charge, the flight instructor reported:

In an effort to prevent an accident similar to the one that occurred with N7423D, I will brief student pilots as to the importance of bracing oneself correctly and that two feet on the floor during touch downs will provide better stability from the human factors perspective of balance. I will also discuss this event in future safety forums within the balloon community in order to enhance safety. It is my belief that these actions will help to prevent any future occurrences of this nature.

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Accident Rpt# CEN16FA005	10/06/2015 1125	Regis# N877DM	Chadron, NE	Apt: N/a
Acft Mk/Mdl BEECH P35		Acft SN D-7238	Acft Dmg: DESTROYED	Rpt Status: Factual Prob Caus: Pending
Eng Mk/Mdl CONTINENTAL IO-520-CB-C-B		Acft TT 4079	Fatal 1 Ser Inj 0	Flt Conducted Under: FAR 091
Opr Name: JOHN J. PRICKETT		Opr dba:		Aircraft Fire: GRD
				AW Cert: STN

Events

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

Narrative

HISTORY OF FLIGHT

On October 6, 2015, about 1125 mountain daylight time, a Beech P35 (Bonanza) single-engine airplane, N877DM, collided with trees and terrain during cruise flight near Chadron, Nebraska. The airline transport pilot was fatally injured, and the airplane was destroyed. The airplane was registered to and operated by the pilot under the provisions of 14 Code of Federal Regulations (CFR) Part 91 as a personal flight with an instrument flight rules (IFR) flight plan on file. Day instrument meteorological conditions (IMC) prevailed at the accident site. The cross-country flight departed Chadron Municipal Airport (CDR), Chadron, Nebraska, at 1121, and was destined for Alliance Municipal Airport (AIA), Alliance, Nebraska.

According to available flight plan information, on the morning of the accident the pilot filed two flight plans using a direct user access terminal service. The first flight plan was for an IFR flight from North Platte Regional Airport, North Platte, Nebraska, to CDR. The second IFR flight plan was for the accident flight between CDR and AIA. The pilot filed for a direct routing from CDR to BOOKY (a IFR reporting point), then direct to JIVAM (an initial approach fix to AIA), and a cruise altitude of 7,000 ft mean sea level (msl). A fixed-base operator (FBO) employee at CDR reported seeing the airplane arrive on the ramp about 1050. The pilot and passenger subsequently entered the main lobby briefly to use the restroom. The pilot did not use the FBO's weather system before he exited the lobby to the ramp. The FBO employee then observed the pilot walk around the airplane a couple of times before he boarded. The airplane taxied from the ramp about 1110.

According to Federal Aviation Administration (FAA) air traffic control (ATC) track data, the airplane transmitted automatic dependent surveillance-broadcast (ADS-B) position data throughout the flight. A review of the ADS-B data established that the flight departed CDR on runway 11 about 1121:19. After departure, the flight turned right toward the south and proceeded toward the intended destination.

At 1122:16, the pilot established radio contact with Denver Air Route Traffic Control Center (ARTCC) and transmitted, "Eight seven seven delta mike, off of Chadron, I would like to pick up an IFR to, ah, Alliance." The controller replied, "November eight seven seven delta mike, Denver Center roger, ah, stand-by." About 8 seconds later, the controller issued a discrete transponder code, which the pilot correctly acknowledged. At 1122:52, the assigned transponder code updated on the controller's display, which indicated the flight was at 4,200 ft msl and had a ground speed of 145 knots. According to the ADS-B data, the flight proceeded south between 4,200 and 4,400 ft msl and at ground speeds between 135 and 155 knots.

According to recorded ATC transmissions, there were no verbal exchanges between the controller and the pilot during the 2.5 minutes following the issuance of the transponder code; however, the controller was actively communicating with several other aircraft that were operating within his airspace sector. At 1125:16, the ADS-B data indicated that the airplane was at 4,200 ft msl and had a ground speed of 143 knots. No additional track data was received from the airplane. At 1125:23, the controller transmitted, "November eight seven seven delta mike, radar contact nine miles south of the Chadron airport, say altitude." There was no response from the pilot.

According to ADS-B track data and topographic elevation data, the airplane encountered rising terrain as it continued south from the departure airport. The airplane subsequently impacted treetops and a ridgeline about 10 miles south of the departure airport at 4,200 ft msl. The height of the ridgeline was about 900 ft above the departure airport elevation.

PERSONNEL INFORMATION

According to FAA records, the 61-year-old pilot held an airline transport pilot certificate with single-engine land, multi-engine land, and instrument airplane ratings. The single-engine land rating was limited to commercial privileges. He had been employed as a pilot by American Airlines since 1989 and was

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type-rated for the Boeing 727, Boeing 737, Boeing 757, Boeing 767, Douglas DC-9, Fokker 100, and Lockheed JetStar. He also held a flight instructor certificate with single-engine, multi-engine, and instrument airplane ratings and a flight engineer certificate for turbojet airplanes. His most recent FAA first-class medical certificate was issued on June 10, 2015, with a limitation for corrective lenses. On the application for his current medical certificate, the pilot reported having accumulated 18,900 hours of total flight experience, of which 400 hours were flown within the previous 6 months.

A current pilot logbook was not located during the investigation; the pilot's most recent logbook entry was dated December 16, 2004. According to an insurance application that was submitted for the operation of the airplane, dated July 24, 2015, the pilot reported having a total flight experience of 19,010 hours, of which 939 hours were flown within the previous year. The pilot reported having flown 195 hours in Beech Bonanza airplanes. According to the insurance application, the pilot's last flight review was completed on June 20, 2015.

AIRCRAFT INFORMATION

The airplane was a 1963 Beech P35 (Bonanza), serial number D-7238. The airplane was a single-engine, low-wing, monoplane of conventional aluminum construction. The airplane was powered by a 285-horsepower, 6-cylinder Continental IO-520-CB-C-BB reciprocating engine, serial number 576182. The engine provided thrust through a constant-speed, three-blade, Hartzell PHC-C3YF-1RF propeller, serial number EE2277A. The airplane was equipped for operations in IMC. The airplane had a maximum allowable takeoff weight of 3,300 pounds and a total fuel capacity of 110 gallons. The FAA issued the airplane a standard category airworthiness certificate on August 6, 1963.

The airplane's recording tachometer was destroyed during the postimpact fire, which precluded a determination of the airplane's total service time at the time of the accident. According to the maintenance logbooks, the last annual inspection was completed on June 11, 2015, at 4,078.86 total airframe hours. At the time of the annual inspection, the engine had accumulated 1,953.08 hours since new and 212.77 hours since the last major overhaul, which was completed on April 29, 2005. The static system, altimeter system, automatic pressure altitude reporting system, and transponder were last tested on March 13, 2015. A postaccident review of the maintenance records found no history of unresolved airworthiness issues.

METEOROLOGICAL INFORMATION

The National Weather Service (NWS) Surface Analysis Chart issued at 1200 depicted a cold front extending from southern Wyoming east into central Nebraska then northeast into southern Minnesota. The weather station models depicted cloudy skies and a variable surface wind under 5 knots for locations near the accident site. The NWS Area Forecast Discussion issued at 0704 mentioned areas of dense fog and low cloud ceilings near the departure airport and the planned destination. Further, the forecast indicated a slow improvement in weather conditions through the morning hours; however, the conditions were not forecast to improve above marginal visual meteorological conditions (VMC). At the time of the accident, the terminal forecast for CDR indicated a surface wind from 100° at 8 knots, visibility greater than 6 miles, scattered clouds at 700 ft above ground level (agl), and an overcast ceiling at 2,000 ft agl.

At 1053, about 32 minutes before the accident, the CDR automated surface observing system (ASOS) reported: calm wind, 9 miles surface visibility, broken ceiling at 1,500 ft agl and an overcast ceiling at 3,400 ft agl, temperature 14°C, dewpoint 11°C, and an altimeter setting of 30.25 inches of mercury.

At 1153, about 28 minutes after the accident, the CDR ASOS reported: calm wind, 9 miles surface visibility, few clouds at 1,600 ft agl and an overcast ceiling at 3,000 ft agl, temperature 15°C, dew point 11°C, and an altimeter setting of 30.24 inches of mercury.

An individual, who had been working outside near the accident site, reported that throughout the morning there had been light precipitation, mist, fog, and low clouds that obscured the surrounding ridgelines. The individual also recalled that the weather conditions had improved shortly before noon.

A review of weather briefing requests made to official vendors revealed that the pilot had not received a formal weather briefing before departure.

COMMUNICATIONS

A review of available ATC information confirmed that the flight had received normal services and handling. A transcript of the voice communications recorded during the flight are included in the docket materials associated with the investigation.

The departure airport was equipped with a remote communication outlet (RCO) that provided a radio link to Columbia Flight Service Station; however, on the

day of the accident, a notice to airman (NOTAM) indicated that the RCO was out of service. A RCO is routinely used by pilots to obtain an IFR clearance while on the ground. If a RCO is out of service, a pilot can telephone a flight service station to obtain an IFR clearance or, if the weather conditions permit, they can choose to depart under VFR and obtain an IFR clearance when airborne.

WRECKAGE AND IMPACT INFORMATION

The initial impact point was identified by broken treetops that preceded a ridgeline, fractured tree limbs found along the ridgeline, red paint chips found on the ridgeline that matched the paint color of the airplane's lower fuselage, and a portion of the airplane's VHF marker beacon antenna. The initial impact point was about 250 ft south-southeast of the final recorded ADS-B position.

The main wreckage was in a canyon/ravine to the south-southeast of the initial impact point. A wreckage debris path, which initiated from the ridgeline, was about 560 ft long and oriented on a 160° magnetic heading. A large area of burnt ground and vegetation surrounded the main wreckage, which consisted of the fuselage, empennage, right wing, engine, and propeller. A majority of the fuselage, including the cockpit and cabin, had been consumed during the postimpact fire. The left wing had separated from the fuselage and was located further down in the ravine. Flight control cable continuity could not be established due to impact and fire damage; however, all observed separations were consistent with overstress. The flaps were fully retracted. The nose and right main landing gear were fully retracted. The left main landing gear had separated from the wing during the impact sequence. The altimeter's Kollsman window was centered on 30.24 inches of mercury.

The engine remained partially attached to the firewall, and the propeller remained attached to the crankshaft flange. The three-blade propeller exhibited chordwise scratches, spanwise S-shape bends, and a leading edge gouge. One blade exhibited significant blade twisting along its span. Internal engine and valve train continuity were confirmed as the engine crankshaft was rotated. Compression and suction were noted on all cylinders in conjunction with crankshaft rotation. Neither magneto provided a spark when rotated by hand; however, both magnetos exhibited damage consistent with impact and prolonged exposure to fire. The upper spark plugs were removed and exhibited features consistent with normal engine operation. A borescope inspection of each cylinder did not reveal any anomalies with the cylinders, pistons, valves, or valve seats. The vacuum pump produced suction when rotated by hand. The mechanical fuel pump did not rotate freely by hand; however, further disassembly revealed thermal damage to the internal pump components. The fuel pump vanes and drive coupling were not fractured. The fuel metering unit inlet screen was clear and free of any obstructions. The postaccident examination did not reveal any anomalies that would have precluded normal engine operation during the flight.

MEDICAL AND PATHOLOGICAL INFORMATION

The Regional West Medical Center, located in Scottsbluff, Nebraska, performed an autopsy on the pilot at the request of the Dawes County Attorney. The cause of death was attributed to multiple blunt-force injuries sustained during the accident. The FAA's Bioaeronautical Sciences Research Laboratory, Oklahoma City, Oklahoma, performed toxicology tests on specimens obtained during the autopsy. The test results were negative for carbon monoxide, ethanol, and all tested drugs and medications.

ADDITIONAL DATA/INFORMATION

According to available ATC information, the pilot had not received an IFR clearance and, therefore, was still operating under VFR when the airplane impacted rising terrain at 4,200 ft msl. According to federal regulations, the Aeronautical Information Manual (AIM), and FAA Order 7110.65 (Air Traffic Control), a pilot operating under VFR is responsible for terrain, obstacle, and cloud clearance until reaching the minimum en route altitude (MEA) or the minimum IFR altitude (MIA). The MEA is the lowest published altitude between radio navigation fixes that assures acceptable navigational signal coverage and meets obstacle clearance requirements between those fixes. However, any flight segment not on a published airway or route, such as the direct routing used on the accident flight, the MIA is 1,000 ft above the highest obstacle within a horizontal distance of 4 nautical miles (nm) from the course to be flown in a non-mountainous area. The departure airport and accident site were in a designated non-mountainous area. According to ATC documentation, the MIA was 6,000 ft msl over the departure airport and increased to 6,300 ft msl about 10 nm south of the airport.

According to the FAA Terminal Procedures Publication, the departure airport had non-standard takeoff minimums for runway 11 (a climb to 4,800 ft msl at 240 ft per nm if departing in IMC, or 1,200 ft agl ceiling and 3 sm visibility if departing in VMC). Although adherence with takeoff minimums and departure procedures are not required for 14 CFR Part 91 operations, the AIM encourages their use to ensure obstacle and terrain clearance.

National Transportation Safety Board - Aircraft Accident/Incident Database

Accident Rpt# GAA17CA558	08/26/2017	2015 PDT	Regis# N36KC	Redding, CA	Apt: Redding Muni RDD
Acft Mk/Mdl BELLANCA 14 19 3-3A			Acft SN 4304	Acft Dmg: SUBSTANTIAL	Rpt Status: Prelim Prob Caus: Pending
				Fatal 0 Ser Inj 0	Flt Conducted Under: FAR 091
Opr Name: HUMBERT JEFF M			Opr dba:		Aircraft Fire: NONE

National Transportation Safety Board - Aircraft Accident/Incident Database

Accident Rpt# GAA17CA357	06/20/2017 1700 MST	Regis# N88237	Edgewood, NM	Apt: Sandia Airpark Estates East 1N1
Acft Mk/Mdl BELLANCA 7GCBC-NO SERIES		Acft SN 744-74	Acft Dmg: SUBSTANTIAL	Rpt Status: Factual Prob Caus: Pending
Eng Mk/Mdl LYCOMING O-320		Acft TT 1390	Fatal 0 Ser Inj 0	Flt Conducted Under: FAR 091
Opr Name: KIRBY, DENNIS T.		Opr dba:		Aircraft Fire: NONE
				AW Cert: STA

Summary

The pilot reported that, about 8 seconds into the takeoff roll in gusting wind conditions at high density altitude, the airplane "suddenly and expectantly lifted off the runway in a steep angle of attack." He added that he immediately reduced power to idle to abort the initial climb, and the airplane "settled back onto the runway but landed hard." He further added that, during the landing roll, he lost directional control, and the airplane veered off the runway, coming to rest in the dirt alongside the runway.

The fuselage, left wing, and aileron sustained substantial damage.

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

An automated weather observation station, 10 nautical miles southeast of the accident airport, reported that, 5 minutes before the accident, the wind was from 150ø at 16 knots, gusting to 25 knots. The pilot reported that he observed the wind from 300ø at 8 knots, gusting to 15 knots. He reported that the takeoff was on runway 9. He further reported that the density altitude was 10,000 ft at the departure airport.

Cause Narrative

THE NATIONAL TRANSPORTATION SAFETY BOARD DETERMINED THAT THE CAUSE OF THIS OCCURRENCE WAS: The pilot's decision to take off with a gusting tailwind, which resulted in a loss of pitch control during the initial climb and a subsequent hard landing and loss of directional control.

Events

1. Takeoff - Other weather encounter
2. Takeoff-rejected takeoff - Loss of control in flight
3. Landing-flare/touchdown - Hard landing
4. Landing-landing roll - Loss of control on ground
5. Landing-landing roll - Runway excursion
6. Landing-landing roll - Collision with terr/obj (non-CFIT)

Findings - Cause/Factor

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

Narrative

The pilot reported that, about 8 seconds into the takeoff roll in gusting wind conditions at high density altitude, the airplane "suddenly and expectantly lifted off the runway in a steep angle of attack." He added that, he immediately reduced power to idle to abort the initial climb, and the airplane "settled back onto the runway but landed hard." He further added that, during the landing roll, directional control was lost and the airplane veered off the runway, coming to rest in the dirt alongside the runway.

The fuselage, left wing, and aileron sustained substantial damage.

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

An automated weather observation station, 10 nautical miles southeast of the accident airport, 5 minutes before the accident, reported the wind from 150ø at 16 knots, gusting 25 knots. The pilot reported that he observed the wind from 300ø at 8 knots, gusting to 15 knots. He reported that the takeoff was on runway 9. He further reported that the density altitude was 10,000 ft. at the departure airport.

National Transportation Safety Board - Aircraft Accident/Incident Database

Accident Rpt# GAA17CA237	04/18/2017 1030 CDT	Regis# N2198U	Earl Park, IN	Apt: Rheude II08
Acft Mk/Mdl BRANTLY B 2B		Acft SN 409	Acft Dmg: SUBSTANTIAL	Rpt Status: Factual Prob Caus: Pending
Eng Mk/Mdl LYCOMING IVO760		Acft TT 1269	Fatal 0 Ser Inj 0	Flt Conducted Under: FAR 091
Opr Name: ROBERT A. CARLSON		Opr dba:		Aircraft Fire: NONE
				AW Cert: STN

Events

1. Takeoff - Loss of tail rotor effectiveness

Narrative

The pilot in the helicopter reported that after 30 minutes of "hover pattern work" he decided to depart the practice area. He reported that the wind at the time of the accident was from 150ø with 30 kt. wind gusts. The pilot tookoff to the northwest. He made a right pedal turn to return to the practice area. About 120ø after beginning the right pedal turn, he felt a high wind gust and the helicopter began to rotate to the right "which I could not terminate through the controls." The helicopter descended and struck the ground and rolled onto its left side. The helicopter sustained substantial damage to the main rotor drive system and the tail rotor drive system.

According to the Federal Aviation Administration Helicopter Flying Handbook (FAA-8083-21A) and The Helicopter Instructors Flying Handbook (FAA-8083-4) and Advisory Circular (AC) 90-95 Unanticipated rapid right yaw;

Loss of Tail Rotor Effectiveness (LTE) is a critical; low-speed aerodynamic flight characteristic which can result in an uncommanded rapid yaw rate which does not subside of its own accord and, if not corrected, can result in the loss of aircraft control.

According to the Federal Aviation Administration Helicopter Flying Handbook (FAA-8083-21A), Chapter 11-20, paragraph 2:

Weathercock Stability (120-240ø)

In this region, the helicopter attempts to weathervane, or weathercock, its nose into the relative wind. Unless a resisting pedal input is made, the helicopter starts a slow, uncommanded turn either to the right or left, depending upon the wind direction. If the pilot allows a right yaw rate to develop and the tail of the helicopter moves into this region, the yaw rate can accelerate rapidly. In order to avoid the onset of LTE in this downwind condition, it is imperative to maintain positive control of the yaw rate and devote full attention to flying the helicopter.

Weathercock stability is defined as a region of loss of tail rotor effectiveness (120 degree - 240 degree tailwind) that will weathervane the helicopter, and if not prevented will result in a loss of helicopter control about the horizontal axis.

According to the Helicopter Flying Handbook (FAA 8083-21A):

Pilots who put themselves in situations where the combinations above occur should know that they are likely to encounter LTE. The key is to not put the helicopter in a compromising condition but if it does happen being educated enough to recognize the onset of LTE and be prepared to quickly react to it before the helicopter cannot be controlled.

According to Federal Aviation Administration Advisory Circular 90-95, Section 10. a. 1-2 (page 8), Recommended Recovery Techniques:

a. If a sudden unanticipated right yaw occurs, the pilot should perform the following:

(1) Apply full left pedal. Simultaneously, move cyclic forward to increase speed. If altitude permits, reduce power.

(2) As recovery is effected, adjust controls for normal forward flight.

b. Collective pitch reduction will aid in arresting the yaw rate but may cause an increase in the rate of descent. Any large, rapid increase in collective to prevent ground or obstacle contact may further increase the yaw rate and decrease rotor rpm.

Per the National Transportation Safety Board Pilot Aircraft Accident Report, the pilot reported that he should have allowed the helicopter to fly establish translational lift, increase airspeed and altitude before making a turn. "My initial plan was flawed from the outset, in retrospect."

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

National Transportation Safety Board - Aircraft Accident/Incident Database

Accident Rpt# GAA17CA546 09/20/2017 1530 EDT Regis# N6250T Siler City, NC Apt: Siler City Muni SCR
Acft Mk/Mdl CESSNA 150-E Acft SN 15060950 Acft Dmg: SUBSTANTIAL Rpt Status: Prelim Prob Caus: Pending
Fatal 0 Ser Inj 0 Flt Conducted Under: FAR 091
Opr Name: WINNETT TOMMY E Opr dba: Aircraft Fire: NONE

National Transportation Safety Board - Aircraft Accident/Incident Database

Accident Rpt# ERA17FA330	09/20/2017 605 EDT	Regis# N3875J	Rhine, GA	Apt: Private
Acft Mk/Mdl CESSNA 150G-UNDESIGNAT		Acft SN 15065175	Acft Dmg: SUBSTANTIAL	Rpt Status: Prelim Prob Caus: Pending
Eng Mk/Mdl CONT MOTOR O-200 SERIES		Acft TT 6664	Fatal 1 Ser Inj 0	Flt Conducted Under: FAR 091
Opr Name: BARRON JOHN K		Opr dba:		Aircraft Fire: NONE
				AW Cert: STN

Events

1. Initial climb - Loss of control in flight

Narrative

On September 20, 2017, about 0605 eastern daylight time, a Cessna 150G, N3875J, was substantially damaged when it collided with terrain shortly after takeoff from a private airstrip near Rhine, Georgia. The student pilot, who was also the registered owner of the airplane was fatally injured. Night visual meteorological conditions prevailed for the personal flight conducted under the provisions of 14 Code of Federal Regulations Part 91. No flight plan was filed for the flight that was destined for Turner County Airport (75J), Ashburn, Georgia.

The student pilot was scheduled to take his private pilot checkride the following day in St. Simon's Island, Georgia. On the morning of the accident, he planned to pick up his flight instructor in Ashburn before flying to St. Simon's. Witnesses, who were employed by the pilot and worked at his business adjacent to the airstrip, reported that they heard the airplane depart his private grass airstrip to the southeast about 0600. They said the airplane made a left 360° turn before they turned their attention away. Another witness heard the airplane depart followed shortly after by the sound of a crash. The student pilot's cousin and uncle, who were both certificated pilots, initiated an air and ground search and located the airplane via the airplane's emergency locator transmitter (ELT) about 0710.

The student pilot co-owned the private airstrip from which he departed. According to a family member, the private grass runway was about 4,200 ft long, oriented southwest/northeast, and partially lit with solar lights placed every 200 ft. The student pilot was known to taxi to the end of the runway and depart to the southwest. After departure, he always made a 360° left turn over the runway for safety purposes before turning on course for his destination.

The airplane came to rest in wooded terrain just north of the private airstrip. The initial impact point was an approximately 80 ft tall pine tree. As the airplane descended, it continued to impact trees until it came to rest about 70 ft from where it first contacted the trees. Several tree branches were strewn along the wreckage path. Several of these tree limbs were fractured and exhibited 45° angular cuts. These cuts were flat and exhibited black paint transfer marks.

The main wreckage came to rest upright with the tail section bent over the top of the airplane. All major components of the airplane were accounted for on-scene. Both wings sustained extensive leading-edge impact damage. The center section of wing had partially separated from the airframe. A small section of the right outboard wing, along with the tip, separated from the wing and was found adjacent to the right wing. The left-wing tip separated and was found several feet from the main wreckage.

Flight control cable continuity was established for all flight controls to the cockpit. The right-wing aileron cable was found separated. The fractured ends were frayed consistent with overload stresses. The flaps were fully retracted. The elevator trim tab was positioned 5° tab down (nose up).

The right and left-wing fuel caps were secure, but the right-wing fuel tank was breached. Fuel was noted draining from the airplane when it was recovered. A fuel receipt found in the airplane revealed the pilot had purchased 20 gallons of 100LL aviation gasoline from a local airport the day before the accident. The fuel selector was in the "on" position. The gascolator remained attached to the firewall. The gascolator bowl contained some fuel and the screen was absent of debris. The carburetor was removed from the engine and the bowl was empty of fuel.

The four-cylinder engine remained attached to the airframe and the two-bladed propeller remained attached to the engine. One blade was bent aft and exhibited distortion at the blade tip. The other blade was bent aft.

The pilot held a student pilot certificate. His last Federal Aviation Administration (FAA) third-class medical certificate was issued on April 13, 2017. A review of his logbook revealed that he began flight training on April 4, 2017. As of September 19, 2017, he had logged a total of 236 flight hours, all of which, were in the accident airplane. The student pilot logged 8.3 hours of night time; however, none of those flights included taking off or landing at his private airstrip at night.

At 0635, the weather conditions reported at Fitzgerald Airport (FZG), Fitzgerald, Georgia, which was located about 16 nautical miles southwest of the accident site, included wind calm, visibility 3 miles, mist, clear skies, temperature 22°, dew point 22°, and an altimeter setting of 30.02 inches of mercury.

National Transportation Safety Board - Aircraft Accident/Incident Database

Accident Rpt# GAA17CA180	02/17/2017 1150 EST	Regis# N737RT	Naples, FL	Apt: Naples Muni APF
Acft Mk/Mdl CESSNA 172-N		Acft SN 17269622	Acft Dmg: SUBSTANTIAL	Rpt Status: Factual Prob Caus: Pending
Eng Mk/Mdl LYCOMING O-320 H2AD		Acft TT 3836	Fatal 0 Ser Inj 0	Flt Conducted Under: FAR 091
Opr Name: SCA NAPLES LLC		Opr dba:		Aircraft Fire: NONE
				AW Cert: STN

Summary

The pilot on the controls reported that, during landing while about 70 knots, the airplane buffeted and was pushed to the right of the runway centerline. The pilot recovered and realigned the airplane with the nose on the centerline. He reported that, when he entered the flare, the airplane encountered another wind gust, and the airplane ballooned. The airplane descended and pitched down and landed hard on the nose gear. The propeller struck the ground, and the pilot landed the airplane without further incident. The airplane sustained substantial damage to the firewall.

The METAR reported that the wind was variable at 05 knots about the time of the accident.

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

Cause Narrative

THE NATIONAL TRANSPORTATION SAFETY BOARD DETERMINED THAT THE CAUSE OF THIS OCCURRENCE WAS: The pilot's failure to maintain pitch control, which resulted in a hard landing.

Events

1. Landing - Hard landing

Findings - Cause/Factor

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

Narrative

The pilot on the controls reported that during landing about 70 kts. airspeed, the airplane buffeted and was pushed to the right of the runway centerline. The pilot recovered and realigned the airplane with the nose on the centerline. When the pilot entered the flair, he reported that the airplane encountered another wind gust and the airplane ballooned. The airplane descended and pitched down and landed hard on the nose gear. The propeller struck the ground and the pilot landed the airplane without further incident. The airplane sustained substantial damage to the firewall.

The meteorological aerodrome report identified that the wind was variable at 05 kts. about the time of the accident.

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# GAA17CA268	05/03/2017 1055 HDT	Regis# N173LL	Kaunakakai, HI	Apt: Molokai MKK
Acft Mk/Mdl CESSNA 172-P		Acft SN 17275633	Acft Dmg: SUBSTANTIAL	Rpt Status: Factual Prob Caus: Pending
Eng Mk/Mdl LYCOMING O-320-D2J		Acft TT 9748	Fatal 0 Ser Inj 0	Flt Conducted Under: FAR 091
Opr Name: LANI LEA SKY TOURS, LLC		Opr dba:		Aircraft Fire: NONE
				AW Cert: STN

Events

1. Takeoff-rejected takeoff - Abnormal runway contact
-

Narrative

The student pilot reported that she was practicing touch and go landings to an asphalt runway. She initiated an approach and bounced the landing, then she accomplished a go-around. However, she was airborne when she pushed the carb heat in and applied full throttle, "but mistakenly put flaps up, all at once." The airplane descended to the runway and landed hard. During the landing roll, she pulled the throttle back to idle and gained her bearings, then she initiated a takeoff. She noticed a binding and restriction in the elevator and yoke control movements while remaining in the airport's pattern. She declared an emergency and landed the airplane on the runway. The airplane sustained substantial damage to the elevator control column.

The manufacturer's pilot operating handbook identifies the Balked Landing procedure as:

1. Throttle - Full Open

2. Carburetor Heat - Cold

3. Wing Flaps -20ø (Immediately)

4. Climb Speed - 55 KIAS

5. Wing Flaps - 10ø (Until obstacles are cleared) Retract (After reaching a safe altitude and 60 KIAS)

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# GAA17CA229	04/06/2017 1205 CDT	Regis# N2477F	San Marcos, TX	Apt: San Marcos Regional HYI
Acft Mk/Mdl CESSNA 172-S		Acft SN 172S10574	Acft Dmg: SUBSTANTIAL	Rpt Status: Factual Prob Caus: Pending
Eng Mk/Mdl LYCOMING IO-360-L2A		Acft TT 3436	Fatal 0 Ser Inj 0	Flt Conducted Under: FAR 091
Opr Name: COAST FLIGHT TRAINING.		Opr dba:		Aircraft Fire: NONE
				AW Cert: STN

Events

1. Landing - Hard landing
-

Narrative

The solo student pilot reported that, during the landing flare he "pulled aft yoke" which resulted in a "substantial balloon." He added that, he "unconsciously pushed forward yoke resulting in a very hard flat or nose wheel first lading".

The airplane sustained substantial damage to the firewall and fuselage.

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

National Transportation Safety Board - Aircraft Accident/Incident Database

Accident Rpt# GAA17CA351 06/10/2017 1100 CDT Regis# N99HV Lawrence, KS Apt: Lawrence Muni LWC
Acft Mk/Mdl CESSNA 172-S Acft SN 172S10090 Acft Dmg: SUBSTANTIAL Rpt Status: Factual Prob Caus: Pending
Eng Mk/Mdl LYCOMING IO-360-L2A Acft TT 5814 Fatal 0 Ser Inj 0 Flt Conducted Under: FAR 091
Opr Name: HETRICK AIR SERVICES Opr dba: Aircraft Fire: NONE
AW Cert: STN

Summary

The flight instructor reported that, during a simulated engine failure in the traffic pattern, with gusting wind conditions, the student pilot entered a forward slip on final approach. He added that 10 to 20 ft above the runway surface, "the wind gust we were riding suddenly halted wherein the aircraft began a rapid downward descent." The flight instructor reported that he "went for the flight controls to take command," but the student pilot at that same time applied back pressure on the flight controls. Subsequently, the airplane touched down hard, bounced, and the flight instructor performed a go-around. The flight instructor completed the subsequent traffic pattern and landing without further incident.

The engine mounts and firewall sustained substantial damage.

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

An automated weather observation station at the airport reported that, about the time of the accident, the wind was from 170° at 16 knots, gusting to 24 knots.

The flight instructor reported that the landing was on runway 15.

Cause Narrative

THE NATIONAL TRANSPORTATION SAFETY BOARD DETERMINED THAT THE CAUSE OF THIS OCCURRENCE WAS: The student pilot's incorrect control application during landing after a simulated engine failure, which resulted in a hard, bounced landing, and the flight instructor's delayed action to perform a go-around in gusting wind conditions.

Events

1. Landing - Simulated/training event
2. Landing - Other weather encounter
3. Landing - Loss of control in flight
4. Landing - Attempted remediation/recovery
5. Landing - Hard landing

Findings - Cause/Factor

1. Personnel issues-Action/decision-Action-Incorrect action performance-Student/instructed pilot - C
2. Personnel issues-Task performance-Use of equip/info-Aircraft control-Student/instructed pilot - C
3. Aircraft-Aircraft oper/perf/capability-Performance/control parameters-Descent/approach/glide path-Not attained/maintained - C
4. Personnel issues-Action/decision-Action-Delayed action-Instructor/check pilot - C
5. Personnel issues-Task performance-Use of equip/info-Use of equip/system-Student/instructed pilot - C
6. Environmental issues-Conditions/weather/phenomena-Wind-Gusts-Effect on operation

Narrative

The flight instructor reported that, during a simulated engine failure in the traffic pattern, with gusting wind conditions, the student pilot entered a forward slip on final approach. He added, that 10 to 20 ft. above the runway surface, "the wind gust we were riding suddenly halted wherein the aircraft began a rapid downward descent." The flight instructor reported that he "went for the flight controls to take command," but the student pilot at that same time applied back pressure on the flight controls. Subsequently, the airplane touched down hard, bounced back into the air, and the flight instructor performed a go-around. The flight instructor completed the subsequent traffic pattern and landing without further incident.

The engine mounts and firewall sustained substantial damage.

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

An automated weather observation station at the accident airport, about the time of the accident, reported the wind from 170° at 16 knots, gusting to 24 knots.

The flight instructor reported that the landing was on runway 15.

National Transportation Safety Board - Aircraft Accident/Incident Database

Accident Rpt# GAA17CA163	03/01/2017 1119 EST	Regis# N22904	St Petersburg, FL	Apt: Albert Whitted SPG
Acft Mk/Mdl CESSNA 172S-S		Acft SN 172S9961	Acft Dmg: SUBSTANTIAL	Rpt Status: Factual Prob Caus: Pending
Eng Mk/Mdl LYCOMING IO-360-L2A		Acft TT 4566	Fatal 0 Ser Inj 0	Flt Conducted Under: FAR 091
Opr Name: ST. PETE AIR		Opr dba:		Aircraft Fire: NONE
				AW Cert: STN

Summary

The student pilot reported that, during a solo flight, he was performing takeoffs and full-stop landings in the traffic pattern. During the landing roll, he configured the flaps to 0 and applied full power. The airplane pulled to the left, and he overcompensated the right rudder pedal application. "In an immediate reaction to reverse this I applied left rudder to quickly and went immediately to far left causing a fishtailing effect." The airplane exited the runway to the left and struck runway signage and a fence. The airplane sustained substantial damage to the left wing, the landing gear attachment points, the horizontal stabilizer, and the elevator.

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

Cause Narrative

THE NATIONAL TRANSPORTATION SAFETY BOARD DETERMINED THAT THE CAUSE OF THIS OCCURRENCE WAS: The student pilot's overcompensation of right rudder pedal application during the landing roll, which resulted in a loss of directional control and impact with runway signage and a fence.

Events

1. Landing-landing roll - Loss of control on ground
2. Landing-landing roll - Runway excursion
3. Landing-landing roll - Collision with terr/obj (non-CFIT)

Findings - Cause/Factor

1. Aircraft-Aircraft oper/perf/capability-Performance/control parameters-Directional control-Not attained/maintained - C
2. Personnel issues-Task performance-Use of equip/info-Aircraft control-Student/instructed pilot - C
3. Personnel issues-Task performance-Use of equip/info-Use of equip/system-Pilot - C
4. Environmental issues-Physical environment-Object/animal/substance-Fence/fence post-Contributed to outcome
5. Environmental issues-Physical environment-Object/animal/substance-Sign/marker-Contributed to outcome

Narrative

The student pilot reported that during a solo flight he was performing takeoffs and full stop landings in the traffic pattern. During the landing roll, he configured the flaps to zero and applied full power. The airplane pulled to the left and he overcompensated the right rudder pedal application. "In an immediate reaction to reverse this I applied left rudder to quickly and went immediately to far left causing a fishtailing effect." The airplane exited the runway to the left and struck runway signage and a fence. The airplane sustained substantial damage to the left wing, the landing gear attachment points, the horizontal stabilizer and the elevator.

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# CEN16FA042 11/16/2015 1300 MST Regis# N2440R Sandia Park, NM Apt: N/a
Acraft Mk/Mdl CESSNA 182G Acft SN 18255540 Acft Dmg: DESTROYED Rpt Status: Factual Prob Caus: Pending
Eng Mk/Mdl CONTINENTAL/P. PONK O-470-50 Fatal 3 Ser Inj 0 Flt Conducted Under: FAR 091
Opr Name: MOORE AVIATION, LLC Opr dba: Aircraft Fire: UNK
AW Cert: STN

Summary

The instrument rated pilot did not receive a weather briefing nor file a flight plan prior to departing on a VFR cross-country flight. Radar data showed that the airplane proceeded west on course after departure. As the airplane neared a north/south-oriented mountain range, it deviated from the direct course to the destination, turning to the southwest and then to the north. Overlaying the airplane's flight path on a weather radar image showed that the airplane began the deviation as it approached an area of precipitation. Additionally, photographs taken by a passenger during the flight indicated that the airplane was flying above a solid overcast. As the airplane flew north parallel to the eastern slope of the mountain range, the pilot contacted the destination airport's air traffic control tower and reported that he was descending out of 13,000 ft, that he was between cloud layers, and that he wanted to perform an instrument landing system approach to the airport. He reported being 5 miles east of the airport; however, radar data indicated that the airplane was about 25 miles east and on the other side of the mountain range from the destination airport. The pilot then said the situation was "pretty hairy . . . I can see the ground . . . I'm just trying to maintain visibility right now," and, a few minutes later, "we are really having a tough time trying to get out of this [*mess]." Radio contact was lost shortly thereafter. Radar data indicated an erratic flight path and a varying groundspeed during the last 4 minutes of the flight. Radar contact was lost, and the airplane impacted heavily wooded mountainous terrain in a near vertical attitude. Examination of the wreckage revealed no evidence of any anomalies that would have precluded normal operation of the airplane.

In addition to the precipitation indicated by the weather radar imagery, satellite imagery showed cloud cover over the accident area with tops about 28,000 ft. The weather imagery, the pilot's statements, the erratic flight path, and the airplane's impact attitude are consistent with the airplane entering instrument meteorological conditions and the pilot developing spatial disorientation and losing control.

Toxicological testing revealed 0.326 (ug/mL, ug/g) sertraline, a prescription antidepressant, in the pilot's heart blood and desmethylsertraline, a metabolite of sertraline, in the pilot's liver and heart blood. The pilot's medical records indicated that he was being treated for depression with sertraline, and, several months before the accident, the pilot's health care provider noted that the pilot's depression was well controlled.. Therefore, it is unlikely that effects from the pilot's depression or use of sertraline contributed to the accident.

Cause Narrative

THE NATIONAL TRANSPORTATION SAFETY BOARD DETERMINED THAT THE CAUSE OF THIS OCCURRENCE WAS: The pilot's continued visual flight into instrument meteorological conditions, which resulted in spatial disorientation and a loss of control.

Events

1. Enroute-cruise - VFR encounter with IMC
2. Enroute-cruise - Loss of visual reference
3. Maneuvering - Loss of control in flight
4. Uncontrolled descent - Collision with terr/obj (non-CFIT)

Findings - Cause/Factor

1. Personnel issues-Action/decision-Info processing/decision-Decision making/judgment-Pilot - C
2. Personnel issues-Psychological-Perception/orientation/illusion-Spatial disorientation-Pilot - C
3. Personnel issues-Task performance-Use of equip/info-Aircraft control-Pilot - C
4. Aircraft-Aircraft oper/perf/capability-Performance/control parameters-(general)-Not attained/maintained - C
5. Environmental issues-Conditions/weather/phenomena-Ceiling/visibility/precip-Low visibility-Effect on personnel - C
6. Environmental issues-Conditions/weather/phenomena-Ceiling/visibility/precip-Low visibility-Effect on personnel - C

Narrative

HISTORY OF FLIGHT

On November 16, 2015, at 1259 mountain standard time (mst), a Cessna 182G, N2440R, impacted wooded mountainous terrain in Sandia Park, New Mexico. The commercial pilot and the two passengers were fatally injured. The airplane was destroyed. The airplane was registered to and operated by Moore Aviation, LLC, Wichita Falls, Texas, under the provisions of 14 Code of Federal Regulations Part 91 as a personal flight. Instrument meteorological conditions (IMC) prevailed at time of the accident, and no flight plan had been filed. The cross-country flight originated from Kickapoo Airport (KCWC), Wichita Falls, Texas, at

National Transportation Safety Board - Aircraft Accident/Incident Database

0937 central standard time, and was en route to Double Eagle II Airport (KAEG), Albuquerque

There was no record that the pilot received a weather briefing before his departure from KCWC. Radar data showed that the airplane proceeded on course after departing KCWC. The radar data indicated that the airplane's transponder was set on mode A instead of mode C, and no altitude information was transmitted. Ground speeds during the en route portion of the flight were consistent with normal cruise speeds. As the airplane neared the Sandia Mountains, a north/south-oriented mountain range, it deviated from the direct course to its destination, turning to the southwest and then to the north.

According to Federal Aviation Administration (FAA) transcripts, at 1252:01, as the airplane flew north parallel to the eastern edge of the mountain range, the pilot contacted KAEG air traffic control tower (ATCT) and reported that he was "descending out of 13,000 feet, trying to get over weather but we couldn't get high enough to make it work," and that he was "kind of in between layers." The pilot said that he wanted to "shoot the I-L-S (instrument landing system)" and that he was "east, probably less than 5 miles" from KAEG. The pilot was given the KAEG localizer frequency and told to contact Albuquerque (KABQ) ATCT for a "short range I-F-R (instrument flight rules) clearance."

The pilot contacted KABQ ATCT at 1252:45 mst and reported that he was 5 miles east of KAEG and wanted "to shoot the I-L-S [because] we got caught up in some weather unintentionally." The controller assigned the airplane a beacon code but was unable to locate the airplane on radar.

KABQ ATCT coordinated with KABQ air route traffic control center (ZAB) in an attempt to locate the airplane. ZAB reported that they had received radar returns from the airplane, but that the airplane was on the east side of the Sandia Mountains, 25 miles east of KAEG. The minimum en route altitude in that area was 11,500 feet.

At 1254:24, the pilot said it was getting "pretty hairy. . . I can see the ground . . . I'm just trying to maintain visibility right now." Communications with the pilot intermittent, and ZAB requested an overflying air carrier, Envoy Air flight 3058, to relay messages. At 1257:35, in response to receiving the KABQ altimeter setting (29.61 inches of mercury) provided by the Envoy Air pilot, the accident pilot said, "We are really having a tough time trying to get out of this [*mess]." This was the last radio transmission from the pilot.

Radar data showed that during the last 4 minutes of flight, the airplane's flight path was erratic and its ground speed varied. During the last minute of flight, two computed ground speeds were 17 and 42 knots, which were below the airplane's stall speed of 48 knots. The last radar contact was about 1259.

An alert notice was issued by ZAB, and the wreckage was located about 1330 the following afternoon. The accident site was at an elevation of 7,634 ft., about 23 nautical miles east of KAEG, and 464 ft west of the last radar contact.

PERSONNEL INFORMATION

The pilot held a commercial pilot certificate with airplane single-engine land, airplane multiengine land, and instrument ratings, and a second class airman medical certificate with no restriction or limitations. He also held a mechanic's certificate with airplane and powerplants ratings and an inspector authorization. The pilot was a former U.S. Marine Corps aviation mechanic.

A review of the pilot's logbook revealed entries from October 8, 2008, to September 28, 2015. According to the logbook, the pilot had logged the following flight hours:

Total Time: 700.1
Pilot-in-Command: 648.8
Dual Instruction: 60.5
Cessna 182G: 33.3
Airplane Single Engine Land: 498.3
Airplane Multiengine Land: 205.2
Cross-country: 577.4
Night: 95.6
Actual Instruments: 45.0
Simulated Instruments: 75.6
Instrument Approaches: 79

National Transportation Safety Board - Aircraft Accident/Incident Database

The pilot had logged only one biennial flight review, which occurred on February 16, 2011. Between May 13, 2015, and the day of the accident, in addition to 45 hours of flight in actual instrument conditions, the pilot had logged 11 instrument approaches.

AIRCRAFT INFORMATION

The airplane, serial number 182-55540, was manufactured by the Cessna Aircraft Company (now Textron Aviation) in 1964. It was equipped with a 275-horsepower Continental/P. Ponk O-470-50 engine, driving a 3-blade, all metal, constant speed Hartzell PHC-G3YF-1RF propeller.

According to the bill of sale, the airplane was purchased by Moore Aviation on August 1, 2013. Aircraft maintenance records revealed that the last annual inspection was completed on June 19, 2015, at a tachometer and airframe total time of 4,926.76 hours. On that date, the engine, which had accrued 3,145 total hours, was overhauled and converted from a Continental IO-520-E to a Continental/P. Ponk O-470-50. At the accident site, the tachometer read 4,969.98 hours. The last pitot-static system, altimeter, and transponder-encoder checks were conducted on September 6, 2012, at a tachometer reading of 4,870.13 hours.

METEOROLOGICAL INFORMATION

The following Meteorological Terminal Aviation Routine Weather Report (METAR) was recorded at KABQ at 1252:

Wind, 290@ at 21 knots, gusts to 27 knots; visibility, 10 miles; sky condition, few clouds at 500 ft, 4,100 ft broken, 11,000 ft overcast; temperature, 4@ C.; dew point, -1@ C.; altimeter setting, 29.62 inches of mercury; remarks: site is automated and has a precipitation sensor, peak wind 260@ at 36 knots at 1200, rain ended at 1223, sea level pressure 1010 millibars, mountains obscured northeast through southeast.

The following METAR was recorded at KAEG at 1235:

Wind, 260@ at 20 knots, gusts to 32 knots; visibility, 2-1/2 miles, snow; sky condition, few clouds at 1,500 ft, 4,200 ft scattered, 5,000 ft broken; temperature, 3@ C.; dew point, -2@ C.; altimeter setting, 29.61 inches of mercury.

Geostationary Operational Environmental Satellite (GOES)-15 visible and infrared imagery from 1300 was reviewed. The GOES-15 visible imagery identified cloudy conditions over the accident location, and the infrared cloud-top temperatures were about -39@C over the accident site, which corresponded to a cloud-top height of about 28,000 ft. The cloud-top temperatures varied in the region, with some satellite-derived temperatures reaching 0@C, suggesting cloud top heights from near ground level to 28,000 ft (or possibly below higher tops of terrain in the Albuquerque region).

A regional weather radar composite reflectivity mosaic at 1300 showed a wide area of light precipitation over the accident region. Overlaying the airplane's flight path on a weather radar image from 1259:22 showed that the airplane began to deviate from its west course as it approached the area of precipitation.

The rear seat passenger took cell phone photos while en route, and sent them to friends in Wichita Falls before the accident. Two of those photos were obtained from KOB-TV, Albuquerque. It could not be determined where the airplane was when the photographs were taken. The first photo showed the airplane flying in VFR conditions but there were clouds in the distance. The second photo showed the airplane flying over a solid overcast.

WRECKAGE AND IMPACT INFORMATION

The on-scene wreckage examination was conducted on November 17, 2015. The airplane had impacted heavily wooded mountainous terrain intact. Ground scars and damage to the airplane were consistent with an acute nose-down (about 90@) impact attitude, and the airplane came to rest in a near vertical attitude. The top of a nearby tree was severed, and branches were scattered around on the ground. Between the rear cabin and the empennage, the fuselage was buckled forward about 30@. All major airplane components were located and identified. Flight control continuity was established. Both the left and right wing leading edges displayed accordion-type crush damage. The fuel selector faceplate indicated that the right main tank had been selected. Due to the position of the airplane and the snow, the engine was not examined on site.

Examination of the flight instruments revealed the following:

Altimeter: 1,980 ft
Kollsman window: 29.90 inches of mercury
Tachometer: 850 rpm
Recorder: 4,969.98 hours
Directional gyro: 074ø
Clock: 1023

Examination of the lower left switch panel revealed the following:

Master switch: On
Ignition switch: Left magneto
Standby vacuum: Off
Pitot heat: Off
Navigation lights: Off
Rotating beacon: On

MEDICAL AND PATHOLOGICAL INFORMATION

The Office of the Medical Examiner, University of New Mexico Health Sciences Center, in Albuquerque performed an autopsy on the pilot. According to the autopsy report, the pilot's cause of death was blunt trauma. No significant natural disease was identified by autopsy.

The FAA's Bioaeronautical Sciences Research Laboratory in Oklahoma City, Oklahoma, conducted toxicology tests on samples from the pilot. According to the toxicology report, no carbon monoxide was detected in cavity blood, and no ethanol was detected in vitreous. Cyanide testing was not performed. An unknown quantity of sertraline was detected in the liver, and 0.326 (ug ml, ug/g) sertraline was detected in heart blood. Desmethylsertraline was detected in the liver and heart blood. According to FAA's forensic toxicology drug web page, sertraline (Zoloft) is a prescription antidepressant used for a variety of conditions including depression, obsessive compulsive disorder, panic attacks, posttraumatic stress disorder, and social anxiety disorder. Sertraline is not generally considered to be impairing, although it carries a warning about performance. Desmethylsertraline is the predominant active metabolite of sertraline, and is substantially less active than sertraline. It was learned that the Veterans Administration Hospital in Wichita Falls had prescribed the drug to the pilot for the treatment of his depression.

NTSB's medical officer reviewed the pilot's medical file. According to her report, "The 35 year old male pilot had reported no medical problems and no medications to the FAA. According to the autopsy performed by the University of New Mexico, Office of the Medical Investigator, the cause of death was blunt trauma and the manner of death was accident. No significant natural disease was identified by autopsy. The pilot's personal records revealed a history of cervical spine surgery and major depression treated with sertraline around the time of the accident. Toxicology testing identified sertraline and its metabolite desmethylsertraline in liver and heart blood. The level of sertraline in the heart blood was 0.326 ug/ml. Sertraline is not generally considered to be impairing, although it carries a warning about performance. A few months before the accident, the pilot's health care provider felt his depression was well controlled."

ADDITIONAL INFORMATION

According to FAA Advisory Circular AC 60-4A, "Pilot's Spatial Disorientation," tests conducted with qualified instrument pilots indicated that it can take as long as 35 seconds to establish full control by instruments after a loss of visual reference of the earth's surface. AC 60-4A further states that surface references and the natural horizon may become obscured even though visibility may be above visual flight rules minimums and that an inability to perceive the natural horizon or surface references is common during flights over water, at night, in sparsely populated areas, and in low-visibility conditions.

National Transportation Safety Board - Aircraft Accident/Incident Database

Accident Rpt# GAA17CA245	04/23/2017 1530	Regis# N4017Y	Marsing, ID	Apt: Sunrise Skypark ID40
Acft Mk/Mdl CESSNA 185-F		Acft SN 185-0217	Acft Dmg: SUBSTANTIAL	Rpt Status: Factual Prob Caus: Pending
Eng Mk/Mdl CONTINENTAL 10470		Acft TT 6500	Fatal 0 Ser Inj 0	Flt Conducted Under: FAR 091
Opr Name: TOM BOYER		Opr dba: T&C AIRCRAFT		Aircraft Fire: NONE
				AW Cert: STN

Events

1. Landing-flare/touchdown - Abnormal runway contact
-

Narrative

The pilot in the tailwheel gear-equipped airplane reported that he setup for a wheel landing to an asphalt runway. During touch down the airplane bounced three times and the right landing gear wheel split into two pieces. The airplane ground looped to the left and exited the left side of the runway. The right wing tip and the elevator struck the ground. The airplane sustained substantial damage to the right elevator.

National Transportation Safety Board - Aircraft Accident/Incident Database

Accident Rpt# ERA17LA324	08/10/2017 1700 EDT	Regis# N2100C	Newman, GA	Apt: Newnan Coweta County CCO
Acft Mk/Mdl CESSNA 195-UNDESIGNAT		Acft SN 16085	Acft Dmg: SUBSTANTIAL	Rpt Status: Prelim Prob Caus: Pending
Eng Mk/Mdl JACOBS R755A SERIES		Acft TT 2550	Fatal 0 Ser Inj 0	Flt Conducted Under: FAR 091
Opr Name: JOEL COKER		Opr dba:		Aircraft Fire: NONE
				AW Cert: STN

Events

1. Takeoff - Loss of control on ground
-

Narrative

On August 10, 2017, about 1700 eastern daylight time, a Cessna 195, N2100C, was substantially damaged during takeoff from Newnan Coweta County Airport (CCO), Newnan, Georgia. The airline transport pilot was not injured. The personal flight was conducted under the provisions of 14 Code of Federal Regulations Part 91. Visual meteorological conditions prevailed and no flight plan was filed for the local flight.

According to the pilot, he taxied the airplane to active runway for takeoff. During takeoff roll, the airplane veered to the left. The pilot attempted to correct the turn but was unsuccessful. The airplane departed the left side of the runway, collided with a taxiway light and came to rest in the grass adjacent to the runway.

Examination of the airplane by a Federal Aviation administration (FAA) inspector revealed that the fuselage was buckled. The airplane was retained for further examination.

National Transportation Safety Board - Aircraft Accident/Incident Database

Accident Rpt# GAA17CA226	04/08/2017 900 MDT	Regis# N3938Y	Santa Teresa, NM	Apt: Dona Ana County Airport At San 5T6
Acft Mk/Mdl CESSNA 210-D		Acft SN 21058438	Acft Dmg: SUBSTANTIAL	Rpt Status: Factual Prob Caus: Pending
Eng Mk/Mdl CONT MOTOR IO 520 SERIES		Acft TT 4029	Fatal 0 Ser Inj 0	Flt Conducted Under: FAR 091
Opr Name: JOHN AND TRACY SHORT		Opr dba:		Aircraft Fire: NONE
				AW Cert: STN

Events

1. Landing-flare/touchdown - Abnormal runway contact
-

Narrative

The pilot reported that he was practicing takeoffs and landings to the asphalt runway. The airplane bounced during the touch down and the airplane began a hard porpoise down the runway. The nose landing gear wheel cracked and separated from the airplane and the airplane nosed over. The airplane sustained substantial damage to the vertical stabilizer, the rudder and the left wing strut.

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# CEN17LA352	09/13/2017 1717 CDT	Regis# N5906F	Hallsville, MO	Apt: N/a
Acft Mk/Mdl CESSNA 210G		Acft SN 21058906	Acft Dmg: SUBSTANTIAL	Rpt Status: Prelim Prob Caus: Pending
Eng Mk/Mdl CONT MOTOR IO 520 SERIES			Fatal 0 Ser Inj 0	Flt Conducted Under: FAR 091
Opr Name: AWG AVIATION LLC		Opr dba:		Aircraft Fire: NONE

Events

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

Narrative

On September 13, 2017, about 1717 central daylight time, a Cessna 210G airplane, N5906F, was substantially damaged during a forced landing near Hallsville, Missouri. The private pilot was not injured. The airplane was registered to and operated by AWG Aviation LLC under the provisions of 14 Code of Federal Regulations Part 91 as a personal flight. Day visual meteorological conditions prevailed for the flight, which departed without a flight plan from Columbia Regional Airport (COU), Columbia, Missouri about 1704, with a destination of Washington Municipal Airport (AWG), Washington, Iowa.

According to the pilot, after climbing to 3,500' ft msl, he leaned the engine's mixture and flew level for about 8 minutes. While in cruise flight, he observed a total loss of engine power, with the propeller continuing to windmill. After unsuccessful attempts to restart the engine, the pilot landed in a cornfield, which damaged the fuselage.

National Transportation Safety Board - Aircraft Accident/Incident Database

Accident Rpt# GAA17CA271	05/07/2017 1010 EDT	Regis# N873SL	Big Rapids, MI	Apt: Roben-hood RQB
Acft Mk/Mdl CESSNA A185-F		Acft SN 18503380	Acft Dmg: SUBSTANTIAL	Rpt Status: Factual Prob Caus: Pending
Eng Mk/Mdl CONTINENTAL IO-520		Acft TT 3675	Fatal 0 Ser Inj 0	Flt Conducted Under: FAR 091
Opr Name: AARON SEDINE		Opr dba:		Aircraft Fire: NONE
				AW Cert: STN

Events

1. Landing-landing roll - Abnormal runway contact

Narrative

The pilot in the tailwheel gear-equipped airplane reported that he had accomplished a wheel landing on runway 27. During the landing roll, the tailwheel contacted the ground and the airplane encountered a wind gust from the right. The pilot recalled that the right aileron was into the wind and with left rudder and no power applied. The right wing ascended and the airplane began to weathervane. He added full engine power and full left rudder. The right main descended back to the ground but the airplane exited the runway to the right. The airplane encountered a berm and became airborne. The airplane descended back to the ground and spun about the nose to the left. The airplane sustained substantial damage to the left wing spar and the left main landing gear attachment points.

The METAR reported that about the time of the accident, wind was from 350 \emptyset at 15 kts. gusting to 22 kts. The crosswind component was 18 kts.

Per the National Transportation Safety Board Pilot Aircraft Accident Report, the pilot remarked that the accident could have been prevented by setting personal limitations and by checking the Automatic Terminal Information System every 2 patterns.

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# GAA17CA384 07/04/2017 1630 PDT Regis# N66NF Willits, CA Apt: Ells Field-willits Muni O28
Acft Mk/Mdl CESSNA P210-R Acft SN P21000860 Acft Dmg: SUBSTANTIAL Rpt Status: Factual Prob Caus: Pending
Eng Mk/Mdl CONT MOTOR TSIO-520-CE Fatal 0 Ser Inj 0 Flt Conducted Under: FAR 091
Opr Name: DANIEL J. LEVIN TRUSTEE Opr dba: Aircraft Fire: NONE
AW Cert: STN

Summary

The pilot of the airplane reported that, while landing and trying to maintain the runway centerline, the airplane was "blown to the east, presumably by either stronger winds or gusts." He added that he continued to descend while attempting to correct back to the right toward the runway centerline. He further added that he was "fearing a stall" and chose to "put the plane down in the grass and dirt to the left of the runway." Unable to stop the forward momentum with full application of the brakes, the airplane continued over the edge of the embankment and came to rest in the trees.

A witness, who was flying another airplane in the pattern, reported that the accident airplane did not touch down until the second half of the landing runway. He added that the airplane was "over the dirt" on the east side of the runway when it touched down and went off the embankment at the end of the runway. He observed the pilot exit the airplane and walk away.

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

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

The automated weather observation system about 21 nautical miles from the accident site reported that, about the time of the accident, the wind was from 150ø at 12 knots, gusting to 20 knots. The pilot landed on runway 16.

Cause Narrative

THE NATIONAL TRANSPORTATION SAFETY BOARD DETERMINED THAT THE CAUSE OF THIS OCCURRENCE WAS: The pilot's failure to maintain directional control while landing in gusting wind conditions. Contributing to the accident was the pilot's failure to go around after the unstabilized approach.

Events

1. Landing - Loss of control in flight
2. Landing - Landing area overshoot
3. Landing - Runway excursion

Findings - Cause/Factor

1. Aircraft-Aircraft oper/perf/capability-Performance/control parameters-Directional control-Not attained/maintained - C
2. Personnel issues-Task performance-Use of equip/info-Aircraft control-Pilot - C
3. Personnel issues-Action/decision-Info processing/decision-Decision making/judgment-Pilot - F
4. Aircraft-Aircraft oper/perf/capability-Performance/control parameters-Landing flare-Not attained/maintained - F

Narrative

The pilot of the airplane reported that, while landing and trying to maintain the runway centerline, the airplane was "blown to the east, presumably by either stronger winds or gusts." He added that he continued to descend, while attempting to correct back to the right towards the runway centerline. He further added, that he was "fearing a stall," and elected to "put the plane down in the grass and dirt to the left of the runway." Unable to stop the forward momentum with full application of the brakes, the airplane continued over the edge of the embankment, and came to rest in the trees.

A witness, flying from another airplane in the pattern reported that, the accident airplane did not touch down until the second half of the landing runway. He added that, the airplane was "over the dirt" on the east side of the runway when it touched down and went off the embankment at the end of the runway. He observed the pilot exit the airplane and walk away.

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

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

The automated weather observation system about 21 nautical miles from the accident site reported, about the time of the accident, the wind was 150ø at 12 knots, gusting to 20 knots. The pilot landed on runway 16.

National Transportation Safety Board - Aircraft Accident/Incident Database

Accident Rpt# WPR17LA204	09/15/2017 1300 PDT	Regis# N5391A	Watsonville, CA	Apt: Watsonville Muni WVI
Acft Mk/Mdl CESSNA T210N-N		Acft SN 21063408	Acft Dmg: SUBSTANTIAL	Rpt Status: Prelim Prob Caus: Pending
			Fatal 0 Ser Inj 0	Flt Conducted Under: FAR 091
Opr Name: SINGH AMANDEEP		Opr dba:		Aircraft Fire: NONE

Events

1. Landing-flare/touchdown - Landing gear collapse

Narrative

On September 15, 2017, about 1300 Pacific daylight time, a Cessna T210N, N5391A, was substantially damaged during landing on runway 20 at the Watsonville Municipal Airport (WVI), Watsonville, California. The private pilot and passenger were not injured. The airplane's nose landing gear separated and the aft fuselage was punctured and torn. The airplane was registered to and operated by the pilot under the provisions of 14 Code of Federal Regulations Part 91 as a personal flight. Visual meteorological conditions prevailed and a flight plan was not filed. The flight originated from Livermore Municipal Airport (LVK), Livermore, California at an unknown time.

A postaccident examination of the accident site revealed impact marks on the approach end of runway 20. Wreckage debris was found near the impact marks and the nose landing gear was found further down the runway. The airplane came to rest on the left side of the runway.

During a telephone interview with the pilot, he stated there were no mechanical anomalies with the airplane and that the approach and landing was normal. He further stated he didn't know how the nose landing gear separation happened.

Federal Aviation Administration (FAA) records indicated that the pilot held a private pilot certificate with an airplane single-engine land rating. The pilot stated that he had about 150 hours total flight experience, including about 30 hours in the accident airplane make and model.

The 1253 automated weather observation from WVI, variable winds at 6 knots, visibility 10 miles, clear skies, temperature 21 degrees C, dew point 12 degrees C, and an altimeter setting of 29.97 inches of mercury.

The wreckage was recovered to a secure location for further examination.

National Transportation Safety Board - Aircraft Accident/Incident Database

Accident Rpt# CEN17FA361	09/23/2017 745 CDT	Regis# N4777T	Thief River Fal, MN	Apt: Thief River Falls Rgnl TVF
Acft Mk/Mdl CESSNA TR182		Acft SN R18201763	Acft Dmg: DESTROYED	Rpt Status: Prelim Prob Caus: Pending
Eng Mk/Mdl LYCOMING O-540			Fatal 3 Ser Inj 0	Flt Conducted Under: FAR 091
Opr Name: WING MOY		Opr dba:		Aircraft Fire: UNKT
				AW Cert: STN

Events

1. Initial climb - Loss of control in flight

Narrative

On September 23, 2017, about 0745 central daylight time, a Cessna TR182 airplane, N4777T, impacted terrain about 3 nautical miles west of Thief River Falls Regional Airport (TVF), Thief River Falls, Minnesota. The private pilot and two passengers were fatally injured and the airplane was destroyed. 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. Instrument meteorological conditions prevailed at the time of the accident and no flight plan had been filed. The flight had just departed from TVF and was en route to Rawlins Municipal Airport (RWL), Rawlins, Wyoming.

Several witnesses, who spoke to the pilot in days preceding the accident, stated that he had flown the same passengers from RWL to TVF on September 17 and returned to RWL the same day. The pilot inquired with the local fixed base operator (FBO) about obtaining a local area sectional chart. The pilot flew back to TVF on September 22 to retrieve the passengers. After landing at TVF the pilot described the flight as "terrible" because he flew at 1,500 ft above ground level (agl), under a cloud layer.

A hotel employee spoke to pilot and passengers on the morning of the accident. The pilot was in the hotel lobby around 0530 checking the weather conditions and planning the flight. The passengers did not eat breakfast and expressed concern about the turbulence to be expected during the flight. The employee drove the three men to TVF about 0715.

At 0701, the automated weather observation system (AWOS) at TVF reported wind from 340° at 6 knots, 10 statute miles visibility, overcast clouds at 400 ft agl, temperature 50°F, dew point 48°F, and altimeter 29.95 inches of mercury; remarks - pressure rising rapidly.

At 0801, the AWOS at TVF reported wind from 310° at 7 knots, 10 statute miles visibility, overcast clouds at 400 ft agl, temperature 50°F, dew point 48°F, and altimeter 29.98 inches of mercury.

A witness who was about 1 mile southwest of the accident site stated that he heard the airplane overhead and the airplane's engine was "screaming" before he heard the impact.

The accident site was located in a harvested wheat field next to a dirt road. The wreckage debris path began with a ground impact mark, which contained broken green glass from the right wing navigation light, and continued on a heading of 060° for about 200 yards. All the major airplane components were found at the accident site.

The wreckage has been retained for further examination.

National Transportation Safety Board - Aircraft Accident/Incident Database

Accident Rpt# GAA17CA414	07/16/2017 1530	Regis# N166Z	Albuquerque, NM	Apt: Albuquerque Intl Sunport ABQ
Acft Mk/Mdl CESSNA TU206-G		Acft SN U20606923	Acft Dmg: SUBSTANTIAL	Rpt Status: Factual Prob Caus: Pending
Eng Mk/Mdl TCM TSIO-520M7B		Acft TT 4887	Fatal 0 Ser Inj 0	Flt Conducted Under: FAR PUBU
Opr Name: USDA FOREST SERVICE FIRE & AVIATION		Opr dba:		Aircraft Fire: NONE
				AW Cert: STN

Summary

The pilot reported that, during the touchdown, a wind gust caused the airplane to float back into the air. Subsequently, the airplane porpoised, and he initiated a go-around. The second landing was uneventful; however, before the airplane exited onto the taxiway, the front wheel seized.

A postaccident examination revealed that the front tire rim was damaged and that the tire was flat.

The airplane sustained substantial damage to the firewall.

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

The automated weather observation system on the accident airport reported that, about the time of the accident, the wind was from 120ø at 11 knots. The pilot landed on runway 12.

Cause Narrative

THE NATIONAL TRANSPORTATION SAFETY BOARD DETERMINED THAT THE CAUSE OF THIS OCCURRENCE WAS: The pilot's improper landing flare in gusting wind conditions, which resulted in a porpoised landing.

Events

1. Landing - Abnormal runway contact
2. Landing - Loss of control on ground
3. Landing-aborted after touchdown - Abrupt maneuver

Findings - Cause/Factor

1. Aircraft-Aircraft oper/perf/capability-Performance/control parameters-Landing flare-Not attained/maintained - 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

Narrative

The pilot reported that, during the landing touchdown, a gust of wind caused the airplane to float back into the air. Subsequently, the airplane porpoised, and he initiated a go-around. The second landing was uneventful, however, before the airplane exited onto the taxiway the front wheel seized.

A post-accident examination revealed that, the front tire rim was damaged and the tire was flat.

The airplane sustained substantial damage to the firewall.

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

The automated weather observation system on the accident airport reported, about the time of the accident, the wind from 120ø at 11 knots. The pilot landed on runway 12.

National Transportation Safety Board - Aircraft Accident/Incident Database

Accident Rpt# GAA17CA396	07/08/2017 1020 PDT	Regis# N5195X	Cottonwood, ID	Apt: Cottonwood Muni S84
Acft Mk/Mdl CHAMPION 7KCAB		Acft SN 195	Acft Dmg: SUBSTANTIAL	Rpt Status: Factual Prob Caus: Pending
Eng Mk/Mdl LYCOMING IO-320-E2A		Acft TT 3387	Fatal 0 Ser Inj 0	Flt Conducted Under: FAR 091
Opr Name: MICHAEL ORR		Opr dba:		Aircraft Fire: NONE
				AW Cert: STA

Summary

The pilot of the tailwheel-equipped airplane reported that, during the landing roll, the airplane drifted to the right and that he applied left rudder to correct. The airplane exited the runway to the right and ground looped to the right. The left wing and left elevator impacted the ground and sustained substantial damage. The pilot reported that there were no preaccident mechanical failures or malfunctions with the airplane that would have precluded normal operation.

Cause Narrative

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

Events

1. Landing-landing roll - Loss of control on ground
2. Landing-landing roll - Attempted remediation/recovery
3. Landing-landing roll - Runway excursion
4. Landing-landing roll - Dragged wing/rotor/float/other

Findings - Cause/Factor

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

Narrative

The pilot of the tailwheel-equipped airplane reported that, during the landing roll, the airplane drifted to the right and he applied left rudder to correct. The airplane exited the runway to the right and ground looped to the right. The left wing and left elevator impacted the ground and sustained substantial damage.

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# ERA17CA137	03/26/2017 1325 CDT	Regis# N782JR	Cleveland, TN	Apt: Cleveland Rgnl Jetport RZR
Acft Mk/Mdl CIRRUS DESIGN CORP SR20-NO SERIES	Acft SN 2337	Acft Dmg: SUBSTANTIAL	Rpt Status: Factual	Prob Caus: Pending
Eng Mk/Mdl CONTINENTAL IO-360-ES	Acft TT 201	Fatal 0	Ser Inj 0	Flt Conducted Under: FAR 091
Opr Name: RIDDLEY RETAIL FIXTURES, INC	Opr dba:	Aircraft Fire: NONE		AW Cert: STN

Summary

The flight instructor was conducting an instructional flight in the airplane, which was owned by the student pilot. The flight instructor reported that he did not notice that the student pilot had not set the flaps to the appropriate position for takeoff, as required on the Before Takeoff checklist. Immediately after rotation, during the initial climb, the student pilot had difficulty maintaining directional control. The flight instructor took control of the airplane about 10 ft above the runway, the stall warning annunciator was audible, and the airplane began sinking. The flight instructor pushed the nose over but was unable to recover before the airplane landed hard and then departed the right side of the runway. The landing gear dug into the mud, the airplane then spun around, and the nose landing gear and left main landing gear collapsed, which resulted in substantial damage to the elevator and vertical stabilizer. The flight instructor reported that there were no preimpact mechanical failures or malfunctions with the airplane that would have precluded normal operation.

Cause Narrative

THE NATIONAL TRANSPORTATION SAFETY BOARD DETERMINED THAT THE CAUSE OF THIS OCCURRENCE WAS: The flight instructor's inadequate supervision, which resulted in a premature rotation for a no-flap takeoff and subsequent loss of airplane control during the initial climb.

Events

1. Initial climb - Aerodynamic stall/spin
2. Landing-flare/touchdown - Abnormal runway contact
3. Landing-landing roll - Loss of control on ground
4. Landing-landing roll - Runway excursion

Findings - Cause/Factor

1. Personnel issues-Psychological-Attention/monitoring-Monitoring other person-Instructor/check pilot - C
2. Personnel issues-Task performance-Use of equip/info-Aircraft control-Instructor/check pilot - C
3. Aircraft-Aircraft systems-Flight control system-TE flap control system-Not used/operated
4. Environmental issues-Physical environment-Terrain-Wet/muddy terrain-Contributed to outcome

Narrative

The flight instructor was conducting an instructional flight in the airplane, which was owned by the student pilot. The flight instructor reported that he did not notice that the student pilot did not set the flaps to the appropriate position for takeoff, as required on the before takeoff checklist. Immediately after rotation, during the initial climb, the student pilot had difficulty maintaining directional control. The flight instructor took control of the airplane about 10 ft above the runway, the stall warning annunciator was audible, and the airplane began sinking. The flight instructor pushed the nose over but was unable to recover before the airplane landed hard and then departed the right side of the runway. The landing gear dug into the mud, the airplane then spun around and the nose gear and left main landing gear collapsed, which resulted in substantial damage to the elevator and vertical stabilizer. The flight instructor reported that there were no preimpact mechanical failures or malfunctions with the airplane that would have precluded normal operation.

National Transportation Safety Board - Aircraft Accident/Incident Database

Accident Rpt# GAA17CA201	03/22/2017 1300 EDT	Regis# N146GS	Atlanta, GA	Apt: Dekalb-peachtree PDK
Acft Mk/Mdl CIRRUS DESIGN CORP SR22-NO SERIES	Acft SN 2393	Acft Dmg: SUBSTANTIAL	Rpt Status: Factual	Prob Caus: Pending
Eng Mk/Mdl CONT MOTOR IO-550-N	Acft TT 1884	Fatal 0	Ser Inj 0	Flt Conducted Under: FAR 091
Opr Name: DRC AIR LLC	Opr dba:	Aircraft Fire: NONE		AW Cert: STN

Events

4. Landing-flare/touchdown - Hard landing

Narrative

The pilot of the airplane reported that had recently completed flight training from the manufacturer. The accident flight was conducted under Instrument Flight Rules (IFR) as was the first approach. During his first approach, the pilot reported that his airspeed was too fast and he decided to go around. He canceled the IFR flight plan and squawked 1200 and remained in the traffic pattern. During his second approach, his airspeed was again too fast, but he attempted to land. The airplane bounced three times and during the ascent of the third bounce, the pilot added full power and attempted to go around. The airplane veered left and he attempted to counter the veer with full right rudder application. However, the airplane exited the runway to left and touched down hard. The nose gear collapsed and the airplane slid across the safety area before coming to rest upright. The airplane sustained substantial damage to the firewall.

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# CEN17FA354	09/15/2017 2010	Regis# N462SR	Glenwood Spring, CO	Apt: N/a		
Acft Mk/Mdl CIRRUS DESIGN CORP SR22-NO SERIES	Acft SN 2495	Acft Dmg: DESTROYED	Fatal 4	Ser Inj 0	Rpt Status: Prelim	Prob Caus: Pending
Eng Mk/Mdl CONT MOTOR IO-550-N					Fit Conducted Under: FAR 091	
Opr Name:	Opr dba:				Aircraft Fire: GRD	
					AW Cert: STN	

Events

1. Maneuvering - VFR encounter with IMC

Narrative

On September 15, 2017, about 2010 mountain daylight time, a Cirrus SR22 airplane, N462SR, impacted trees and terrain while maneuvering in mountainous terrain near Glenwood Springs, Colorado. The non-instrument rated private pilot and three passengers were fatally injured, and the airplane was destroyed. The airplane was owned by Lind's Plumbing and Heating, Inc., Fort Collins, Colorado, and operated by a private individual under the provisions of 14 Code of Federal Regulations Part 91. Instrument meteorological conditions prevailed at the time of the accident, and visual flight rules (VFR) flight plan had been filed. The personal cross-country flight departed from the Fort Collins-Loveland Municipal Airport (FNL), Fort Collins/Loveland, Colorado, about 1921, and was destined for Canyonlands Field Airport (CNY), Moab, Utah.

According to preliminary air traffic control information, the airplane departed FNL and the pilot was receiving VFR flight following. Radar track data indicated the airplane traveled on a westerly heading after departure, and then turned to a southwesterly heading at an indicated altitude of about 11,000 ft mean sea level (msl). About 10 miles northeast of Glenwood Springs, the airplane turned to the northwest, climbed to about 12,000 ft msl, and continued northwest for about 12 miles. The airplane then turned back to the southwest and gradually descended. The last recorded radar data was at 2009:32, at altitude 11,400 ft msl, and about 1/4 mile south of the accident site location.

Later than evening, family members reported the airplane overdue at CNY and a search was initiated. The accident site was visually located by search and rescue personnel at 1137 on September 16, 2017.

The accident site was located on rocky and tree covered mountainous terrain about 11,200 ft msl. The airplane impacted trees and terrain on a measured magnetic heading of about 075 degrees. A post-impact fire consumed a portion of the airplane wreckage. The initial impact point on the terrain contained a portion of a propeller blade, fragments of the engine and engine mount, and forward fuselage structure. Several trees were severed at different heights, just prior to the initial impact with terrain. The airframe and engine were fragmented and distributed in the debris field. The Cirrus Airframe Parachute System (CAPS) components were separated from the airframe and distributed in the debris field. The parachute was fully extended in a folded state with the slider at the base and entangled in tree branches. The CAPS rocket was located about 200 feet from the initial impact and was not expended.

At 2008, weather station 5 SM, located at 10,600 feet msl about 16 miles south-southwest of the accident site, reported the wind from 240 degrees at 11 knots, gusting to 23 knots, wind direction varying between 210 and 280 degrees, 1/2-mile visibility, fog, overcast ceiling at 200 feet, temperature 2 degrees C, dew point 1 degree C, and altimeter setting of 30.24 inches of Mercury.

According to the U.S. Naval Observatory, at Glenwood Springs the sunset was at 1917, and the end of civil twilight was at 1944.

National Transportation Safety Board - Aircraft Accident/Incident Database

Accident Rpt# CEN16FA315 08/09/2016 2035 CDT Regis# N9277R Howe, TX Apt: N/a
Acft Mk/Mdl HUGHES 269C Acft SN 790809 Acft Dmg: SUBSTANTIAL Rpt Status: Factual Prob Caus: Pending
Eng Mk/Mdl LYCOMING HIO-360-D1A Acft TT 5663 Fatal 1 Ser Inj 1 Flt Conducted Under: FAR 091
Opr Name: ON FILE Opr dba: Aircraft Fire: NONE
AW Cert: STN

Summary

The flight instructor and student pilot were flying the helicopter near dusk about 1,100 ft above ground level (agl) when the instructor initiated a practice autorotation, by reducing the throttle to idle. The engine subsequently experienced a total loss of power; the instructor attempted to restart the engine, but, was unsuccessful. The student provided conflicting statements regarding who was controlling the helicopter during the autorotation and landing, but stated that he started the landing flare about 25 ft agl. He further stated that he did not think that the helicopter's descent had been sufficiently slowed before the helicopter impacted the ground. Upon impact, the tail boom partially separated and the helicopter rolled over, coming to rest on its right side.

Postaccident examination of the helicopter and engine did not reveal any mechanical malfunctions or anomalies that would have precluded normal operation. Impact damage precluded any functional testing of the engine and its components, and the reason for the reported loss of engine power could not be determined.

The pilot's flight manual stated that an engine restart should not be attempted below 2,000 ft agl, and that, below that altitude, the pilot should conduct a normal autorotation to landing. The manual also stated that the fuel boost pump should be activated before a practice autorotation. The fuel boost pump switch was found in the OFF position. The manual also states that rapid throttle reductions to full idle during flight shall not be conducted at any altitude to minimize the possibility of engine stoppage.

Cause Narrative

THE NATIONAL TRANSPORTATION SAFETY BOARD DETERMINED THAT THE CAUSE OF THIS OCCURRENCE WAS: The improper execution of an autorotation following the loss of engine power, which resulted in an uncontrolled descent into terrain. Contributing to the accident was the flight instructor's lack of remedial action during the autorotation.

Events

1. Maneuvering - Loss of engine power (total)
2. Autorotation - Loss of control in flight
3. Autorotation - Collision with terr/obj (non-CFIT)

Findings - Cause/Factor

1. Aircraft-Aircraft power plant-Engine (reciprocating)-(general)-Simulated malffailure
2. Personnel issues-Task performance-Use of equip/info-Aircraft control-Instructor/check pilot - C
3. Personnel issues-Task performance-Use of equip/info-Aircraft control-Student/instructed pilot - C
4. Personnel issues-Action/decision-Action-Incorrect action performance-Instructor/check pilot - C
5. Personnel issues-Action/decision-Action-Lack of action-Instructor/check pilot - F

Narrative

HISTORY OF THE FLIGHT

On August 9, 2016, at 2035 central daylight time, a Hughes 269C helicopter, N9277R, impacted terrain following an autorotation near Howe, Texas. The flight instructor was fatally injured, the student pilot sustained serious injuries, and the helicopter sustained substantial damage. The helicopter was privately owned and operated under the provisions of 14 Code of Federal Regulations Part 91. Visual meteorological conditions prevailed at the time of the accident, and no flight plan was filed. The local instructional flight departed the Sherman Municipal Airport (SWI), Sherman, Texas, at an unknown time.

The student pilot reported to a law enforcement officer who responded to the accident that he and the flight instructor were flying about 1,100 ft above ground level (agl) when the instructor initiated a practice autorotation which included reducing the throttle to idle to simulate an engine failure. When the engine power was reduced, the engine experienced a total loss of power. The flight instructor attempted to restart the engine, but was unsuccessful. The student stated that the autorotation was initially controlled, but then the helicopter impacted terrain in a high-speed descent. During the impact, the tail boom partially separated, and the helicopter rolled over, coming to rest on its right side.

In a written statement, the student reported that he and the instructor had completed some landings and other operations at SWI, and were returning to his

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residence at an altitude about 1,200 ft agl. While en route, the instructor "slowly rolled down the throttle to simulate [an] engine failure." After noticing the throttle reduction, the student lowered the collective and looked for an appropriate place to land. The student and instructor then noticed the engine rpm gauge was reading zero. The student stated that both he and the instructor were "on the controls" during the autorotation. The student recalled starting to flare about 25 ft agl, and did not recall any details after the flare. The student reported, "I feel we didn't slow the descent enough before contacting the ground..." The student exited the helicopter and attempted, unsuccessfully, to extricate the instructor. He then went to search for assistance.

According to a Federal Aviation Administration (FAA) inspector, who spoke with the student after the accident, the student stated that the instructor never touched or manipulated the flight controls during the flight and during the accident sequence.

PERSONNEL INFORMATION

According to the FAA inspector who spoke with the student, the student had accumulated 25 flight hours with a local helicopter flight school before flying with the accident instructor. He'd stopped flying with the local flight school in October 2012. Since October 2015, the student had flown several flights with the instructor and had accumulated 63.7 total flight hours at the time of the accident.

According to law enforcement, on July 12, 2014, the student had been involved in a previous accident in the same make/model helicopter. The student stated to the FAA inspector that he was moving the helicopter when the helicopter "got away from him." The accident was not reported to the NTSB.

AIRCRAFT INFORMATION

The helicopter's most recent annual inspection (which included an annual, 100, 200, 400 and 24-month inspections) was completed on August 10, 2015, at a total airframe time of 5,624 hours and a Hobbs meter time of 13.0 hours. At the time of the inspection, the engine had accumulated 3,664.6 total hours and 392.6 hours since overhaul. The Hobbs meter time at the accident site was 52.7 hours.

Review of maintenance records revealed no entries or comments related to idle/mixture adjustments or settings.

METEOROLOGICAL INFORMATION

Review of sun and moon data from the U.S. Naval Observatory revealed that, on the day of the accident, sunrise was at 0644, sunset was 2018, and the end of civil twilight was 2045.

WRECKAGE AND IMPACT INFORMATION

The helicopter impacted down sloping grassy terrain adjacent to wooded areas and residential structures. The main wreckage consisted of the fuselage, a portion of the tail boom, and the main rotor system. The landing gear skids were spread apart and bent up into the fuselage. The instrument panel was partially separated from the fuselage. The fuel boost pump switch was found in the OFF position. The right seat anti-torque pedals were separated from the pedal supports. Both the left and right seat bottom panels were crushed downward about 4 inches. Flight control continuity was established from the cockpit to all flight controls in the main rotor and tail rotor systems. The three main rotor blades were bent and deformed, and remained attached to the rotor head.

Upon their arrival to the accident site, first responders noted that fuel was draining from the fuel tanks.

The helicopter was recovered to a secure storage facility for further examination.

On August 30, 2016, the helicopter was examined by the NTSB investigator-in-charge, a representative from the FAA rotorcraft directorate, representatives from Sikorsky Aircraft, and a representative from Lycoming Engines.

Examination of the airframe revealed the mast was intact and three support struts were straight and attached. The transmission was intact and remained attached to the steel center frame. The steel tube support frame exhibited bending, buckling, and fractures. The two forward cockpit floor support struts were fractured. The cockpit floor was separated from the base of the seat deck. The door frames were fractured and separated. The aft cabin wall was distorted and wrinkled at bottom attach area to the seat deck. The canopy frame was fractured and separated with all Plexiglas broken and separated.

The main rotor blades remained attached to the rotor head, and the blades were intact. The yellow blade was bent up at the root end doubler, bowed down at mid-span, and upward at the blade tip. Chordwise crushing and trailing edge wrinkles were noted about mid-span. White paint transfer, consistent with contact with the airframe, was noted on the bottom leading edge. The blue blade was bent downward at the root end doubler, bowed upward near mid-span, and downward at the tip. White paint transfer was present near the blade tip. The red blade was bent downward at the root end doubler. The blade was relatively straight.

The main rotor head was intact and attached to the drive shaft. The rotor head turned freely in the mast bearing with continuity through the main gear box. The three upper main rotor hub attach bolts exhibited compression damage. The compression damage was consistent with contact from the pitch bearing shaft from a high upward blade movement. The blade up-flapping/coning was consistent with blade to ground contact. The droop stop ring was not present.

The tail boom was fractured at the center bulkhead rivet line, and the forward section was separated from the steel tube frame and strut at the forward bulkhead. Both tail boom support struts were fractured at the lower tabs in a downward direction. A main rotor blade contact dent was noted aft of the center attach fitting, at the internal damper location. The left support strut remained attached to the tail boom and exhibited a long black mark on the outside lower portion of the tube, consistent with main rotor blade contact. The horizontal stabilizer displayed downward bending damage and skin buckling at the forward attachment to the tail boom. The lower vertical stabilizer sustained crush damage consistent with ground contact.

The tail rotor blades remained attached to the hub. Both blades displayed minor airfoil damage. One blade was intact and straight, and one blade was fractured at the end of the hub. The tail rotor driveshaft was separated at the forward end from the main gear box pinion drive spline. The driveshaft remained in one piece, but was buckled and folded aft at the boom separation point. The driveshaft exhibited torsional twisting near the forward end with twisting in the direction of rotation, consistent with tail rotor contact prior to separation.

The left landing gear skid remained attached to the forward cross beam at the strut and damper. The left aft skid was separated at the strut to cross beam, with the fracture consistent with overload failure. The right landing gear skid forward strut remained attached to the crossbeam, and the aft strut separated at the crossbeam. The skid was bent between the forward and aft strut attach points, and fractured forward of the forward strut.

The engine remained partially attached to the airframe. The exhaust pipes were crushed, deformed, and displaced, consistent with ground contact. The fuel injector body exhibited impact marks consistent with forward landing gear crossbeam contact. The throttle bellcrank linkage was fractured and separated from the bottom of inlet adapter mount.

Engine control continuity was established from the cockpit controls to the engine components; however, full motion was restricted due to airframe deformation. Thumb compression and valve motion was noted on all cylinders. The magnetos were removed and rotated with a portable drill, and all eight spark plug leads produced spark. The fuel injector nozzles were removed and all nozzles exhibited some carbon on the orifice tips. The fuel injector body bore exhibited carbon deposits. The drained oil from the crankcase was black in color. The engine could not be functionally tested due to damage.

Blue fuel stains were noted from the filler caps on both the main (left) and auxiliary (right) fuel tanks. A puncture was noted in the bottom of the auxiliary tank, and no fuel was present in the fuel tanks. Fuel was found in the fuel injector and fuel pump.

MEDICAL AND PATHOLOGICAL INFORMATION

The instructor died in the hospital on August 10, 2016.

The Dallas County Office of the Medical Examiner, Dallas, Texas, performed an autopsy on the instructor. The autopsy report stated that the cause of death was blunt force injuries.

The FAA's Bioaeronautical Sciences Research Laboratory, Oklahoma City, Oklahoma, performed forensic toxicology on specimens from the flight instructor. The results were negative for carbon monoxide and ethanol. Testing identified Acetaminophen (31.2 (ug/ml) in the urine, glucose (160 mg/dl) in vitreous, glucose (18 mg/dl) in urine, and the blood sample was unsuitable for analysis of Hemoglobin A1C.

Acetaminophen is a pain and fever reliever commonly sold under the trade name Tylenol.

ADDITIONAL INFORMATION

The Pilot's Flight Manual found at the accident site was last updated in June 2000. According to the manufacturer, there had been nine revisions since that date, with the latest revision November 19, 2014. A complete re-issue was published December 7, 2012, which included new warnings on practice autorotations and throttle management.

According to the Pilot's Flight Manual (revised July 5, 1996) that was located at the accident site, Emergency Procedures, page 3-1, Section 3-1 Engine Failure - Altitude Above 450 Feet, stated in part:

"Lower collective pitch. Enter normal autorotation.

Establish a steady glide of 52 knots (60 mph) IAS approximately.

At an altitude of 50 feet, begin steadily to apply back cyclic stick to decreased forward airspeed.

At approximately 10 feet, coordinate collective pitch with forward movement of cyclic stick to level ship and cushion landing. Make ground contact with ship level."

The Pilot's Flight Manual (revised July 5, 1996) Emergency Procedures, page 3-7, Section 3-11 Air Restart stated in part:

"Pick out landing spot. If less than 2000 feet above terrain, proceed with autorotation landing. Pull mixture control to IDLE CUTOFF when time permits to stop flow of fuel from nozzles."

The Pilot's Flight Manual (revised June 15, 1994) Normal Procedures pages, 4-20 to 4-22, Pilot's Check of Idle Mixture, Idle Speed, and Fuel Boost Pump, stated in part:

"NOTE: This check of idle mixture, idle speed, and fuel boost pump shall be accomplished at the end of the last flight each day, prior to engine shutdown.

Accomplish the engine idle mixture check as follows:

Land from a hover with engine cylinder head temperature and oil temperature as near to in-flight conditions as possible, friction on the collective and cyclic controls, governor disengaged, and engine speed at operational rpm.

Ensure MIXTURE is set to FULL RICH.

Rapidly rotate throttle to CLOSED position. (Set at normal idle stop, do not override.)

NOTE: Engine speed will immediately decrease to idle level. Rotor speed, however, will decline gradually. The next step must be performed before rotor tachometer needle superimposes with engine tachometer needle.

Observe engine tachometer needle and smoothly move mixture control toward IDLE CUTOFF position.

Return mixture control to FULL RICH before the rpm decreases to a point where the engine will stop.

NOTE: Engine rpm rise is required to be between 25 and 100 rpm for this check.

If rpm rise is not within the required limits, notify the appropriate maintenance personnel to perform proper idle speed and mixture adjustments.

Accomplish an idle speed check as follows:

Operate helicopter at operational rpm with rotor system engaged, friction on the collective and cyclic controls, and governor disengaged.

Rapidly rotate throttle closed and into full override position.

Read and record engine idle rpm to engine and rotor tachometer needles superimposing.

With engine head temperature near 300 degrees F, but not above, repeat the three preceding steps, without going into full override (set throttle at normal idle stop).

NOTE: The first check (throttle into full override) should produce an idle speed no less than 1400 rpm. The second check (throttle at normal idle stop) should produce an idle speed no greater than 1600 rpm.

If engine idle speed is not within the required limits, notify the appropriate maintenance personnel to perform adjustments in accordance with the Basic HMI."

The November 2014 revision of the Pilot's Flight Manual Normal and Emergency Procedures sections included the following warnings and instructions:

"Engine idle speeds at high density altitude may be less than those set at sea level conditions. Do not rapidly reduce throttle to idle stop in flight.

WARNING - To minimize possibility of engine stoppage, rapid throttle reductions to full idle during flight shall not be conducted at any altitude."

"WARNING - During power recovery from practice autorotations, airspeed and altitude combinations that are inside the height velocity curve shall be avoided. High rates of descent may develop from which recovery may be difficult or not possible.

WARNING - Practice autorotations shall be conducted in an area with a suitable landing site available to minimize hazards associated with inadvertent engine stoppage.

WARNING - To reduce the chance of engine stoppage when initiating practice autorotations or simulated forced landing training the throttle shall not be abruptly retarded to the idle position.

CAUTION - At high power settings an overspeed might occur if throttle is not reduced slightly when collective is lowered.

Ensure fuel boost pump is activated prior to commencing autorotation training. Split the needles by reducing throttle slightly and lowering the collective. The throttle correlation will establish a high idle rpm (approximately 2500 rpm) which will aid in preventing the engine from loading up or stalling during recovery. Conversely, for recovery, increase throttle slightly when the collective is raised, the correlation is such that only minor throttle adjustments will be required to perform a smooth recovery without exceeding 3200 rpm.

If engine stops make a touchdown auto landing."

National Transportation Safety Board - Aircraft Accident/Incident Database

Accident Rpt# GAA17CA174	03/05/2017 530 PST	Regis# N2516K	Henderson, NV	Apt: Henderson Executive HND
Acft Mk/Mdl LANCAIR COMPANY COLUMBIA 400	Acft SN 41069	Acft Dmg: SUBSTANTIAL	Rpt Status: Factual	Prob Caus: Pending
Eng Mk/Mdl CONT MOTOR TSIO-550-C5	Acft TT 991	Fatal 0	Ser Inj 0	Flt Conducted Under: FAR 091
Opr Name: WITTMAN GERALD M	Opr dba:	Aircraft Fire: NONE	AW Cert: STN	

Summary

The pilot reported that he and his passenger were cleared by the tower for the approach to runway 17R. During landing, "a violent wind gust without warning hit the airplane." The pilot attempted to recover, "when a second violent wind gust hit the airplane causing a wing to hit the ground." The airplane's left wing impacted the safety area between runway 17R and 17L and just beyond taxiway Foxtrot. The airplane came to rest in the same safety area about 45ø left of the initial impact point and about 10 ft from runway 17L. The airplane sustained substantial damage to the left wing, fuselage, and rudder.

The METAR reported that the wind was from 220ø at 31 knots, gusting to 38 knots about the time of the accident.

According to the manufacturer's Pilot's Operating Handbook, the maximum demonstrated crosswind component was 23 knots.

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

Cause Narrative

THE NATIONAL TRANSPORTATION SAFETY BOARD DETERMINED THAT THE CAUSE OF THIS OCCURRENCE WAS: The pilot's improper decision to land the airplane with a gusting crosswind, which resulted in a loss of airplane control.

Events

1. Landing - Other weather encounter
2. Landing - Windshear or thunderstorm
3. Landing - Collision with terr/obj (non-CFIT)

Findings - Cause/Factor

1. Personnel issues-Action/decision-Info processing/decision-Decision making/judgment-Pilot - C
2. Personnel issues-Task performance-Use of equip/info-Aircraft control-Pilot - C
3. Aircraft-Aircraft oper/perf/capability-Aircraft capability-Maximum crosswind component-Capability exceeded - C
4. Environmental issues-Conditions/weather/phenomena-Wind-Gusts-Effect on equipment - C
5. Aircraft-Aircraft oper/perf/capability-Performance/control parameters-(general)-Not attained/maintained - C

Narrative

The pilot reported that he and his passenger were cleared by tower for the approach to runway 17 Right (R). During landing, "a violent wind gust without warning hit the airplane." The pilot attempted to recover, "when a second violent wind gust hit the airplane causing a wing to hit the ground." The airplane's initial impact point was the left wing that impacted the safety area between runway 17 R and 17 Left (L), and just beyond taxiway Foxtrot. The airplane came to rest in the same safety area about 45ø left of the initial impact point, and about 10 feet from runway 17 L. The airplane sustained substantial damage to runway left wing, the fuselage and the rudder.

The meteorological aerodrome report identified that the wind was out of 220ø at the velocity of 31 kts. gusting to 38 kts. about the time of the accident.

According to the manufacturer's pilot operating handbook, the maximum demonstrated crosswind component is 23 kts.

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

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Accident Rpt# CEN17LA184	05/15/2017 1330 EDT	Regis# N9265M	Dowling, MI	Apt: Private NA
Acft Mk/Mdl MOONEY M20E		Acft SN 1208	Acft Dmg: SUBSTANTIAL	Rpt Status: Factual Prob Caus: Pending
Eng Mk/Mdl LYCOMING IO-360-A1A		Acft TT 3225	Fatal 0 Ser Inj 0	Flt Conducted Under: FAR 091
Opr Name: KOBE THOMAS J		Opr dba:		Aircraft Fire: NONE

Events

1. Landing-flare/touchdown - Flight instrument malf/fail
-

Narrative

On May 15, 2017, about 1330 eastern daylight time, a Mooney M20E airplane, N9265M, was substantially damaged when it impacted trees, a fence, and a pole, while landing at a private grass airstrip near Dowling, Michigan. The private pilot was not injured. The personal flight was conducted under the provisions of 14 Code of Federal Regulations Part 91 without a flight plan. Visual meteorological conditions prevailed for the flight that departed W K Kellogg Airport (BTL), Battle Creek, Michigan, and was en route to the private airstrip.

According to the pilot, during the flight the airspeed indicator did not indicate as high as it normally would. He landed uneventfully at BTL to drop off a passenger and then continued to the private airstrip (2,000 feet by 120 feet, grass) for a full-stop landing. While on final approach, the pilot decreased airspeed to 70 miles per hour (mph); however, the airplane would not settle so he initiated a go around. During the second attempt to land, the pilot decreased airspeed to 60 mph, but the airplane still would not land. The pilot stated that he "forced" the airplane to land.

During touchdown the airplane porpoised and continued off of the runway hitting trees, a fence, and a pole. According to the Federal Aviation Administration inspectors who responded to the accident, the left main landing gear and nose gear collapsed. The right wing sustained substantial impact damage to the leading edge and the spar. The pitot tube separated from the airplane and could not be functionally tested.

During the examination of the pitot static system debris was recovered from the pitot tube that appeared organic in nature, consistent with the remains of an insect. A functional test of the airspeed indicator revealed no anomalies that would have precluded normal operation.

National Transportation Safety Board - Aircraft Accident/Incident Database

Accident Rpt# GAA17CA211	04/28/2017 1506 EST	Regis# N1157N	Cedar Key, FL	Apt: George T Lewis CDK
Acft Mk/Mdl MOONEY M20J-NO SERIES		Acft SN 24-1288	Acft Dmg: SUBSTANTIAL	Rpt Status: Factual Prob Caus: Pending
Eng Mk/Mdl LYCOMING IO-360-A3B6D		Acft TT 2254	Fatal 0 Ser Inj 0	Flt Conducted Under: FAR 091
Opr Name: NM LIQUORS INC		Opr dba:		Aircraft Fire: NONE
				AW Cert: STN

Events

2. Landing-aborted after touchdown - Collision during takeoff/land

Narrative

The private pilot reported that during the landing roll, he had traveled about half of the distance down the 2,355 ft. runway and he realized that a go-around was going to be required. He could not recall the airplane's airspeed when the airplane touched down on the runway that was located steps from the ocean. However, he did recall that he initiated the go-around by applying full throttle, retracting the flaps to zero and rotating at 62 kts. The airplane "lifted off but did not gain altitude." The pilot lowered the nose to accelerate, but the airplane stalled and impacted the water. The airplane sustained substantial damage to the right wing spar and aileron.

According to the manufacturer's pilot operating handbook, the go-around procedure is:

CAUTION

To minimize control wheel forces during go-around, timely nose-down trimming is recommended to counteract nose up pitching moment as power is increased and/ or flap retraction.

Power... Full Throttle/2700 RPM

Mixture... Full Rich

Airspeed... 65 KIAS

Wing Flaps... Takeoff position after climb established

Trim... Nose Down (to reduce control forces)

Airspeed... Accelerate to 76 KIAS

Landing Gear... Retract

Wing Flaps... Retract

Cowl Flaps... Open

Airspeed... Accelerate to 86 KIAS

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# ERA15LA349	09/10/2015 1448 EDT	Regis# N370MM	Atlantic City, AO	Apt: N/a
Acft Mk/Mdl MOONEY AIRPLANE CO INC M20TN-NO	Acft SN 31-0071	Acft Dmg: SUBSTANTIAL	Rpt Status: Factual Prob Caus: Pending	
Eng Mk/Mdl CONT MOTOR TSIO-550-G	Acft TT 477	Fatal 1 Ser Inj 0	Flt Conducted Under: FAR 091	
Opr Name: MOIR MICHAEL	Opr dba:	Aircraft Fire: NONE		AW Cert: STN

Events

2. Enroute-cruise - Miscellaneous/other

Narrative

HISTORY OF FLIGHT

On September 10, 2015, about 1448 eastern daylight time, a Mooney M20TN airplane, N370MM, impacted the Atlantic Ocean off the coast of Atlantic City, New Jersey. The commercial pilot was fatally injured, and the airplane sustained substantial damage. The airplane was owned by the pilot and the flight was being conducted as a 14 Code of Federal Regulations Part 91 personal flight. Day visual meteorological conditions existed near the accident site about the time of the accident, and an instrument flight rules flight plan had been filed. The flight originated from Gaylord Regional Airport (GLR), Gaylord, Michigan, about 1200 and was destined for Atlantic City International Airport (ACY), Atlantic City, New Jersey.

According to the pilot's logbook and a fuel receipt, he flew the accident airplane for 1 hour on September 7, 2015, and then fueled the airplane with 11.4 gallons of 100LL aviation fuel. There were no other fuel transactions or flights between that time and the day of the accident. The pilot reported in his flight plan that there was sufficient fuel onboard the airplane for 6 hours of flight.

According to Federal Aviation Administration (FAA) Minneapolis Air Route Traffic Control Center (ARTCC) records, the airplane departed GLR about 1200, and at 1214:04, the pilot checked in and informed the controller that he was climbing from 17,600 to 21,000 ft mean sea level (msl). The controller then instructed the pilot to climb to 25,000 ft msl, and the pilot read back the assigned altitude and continued toward the destination.

About 23 minutes later, while the autopilot-equipped airplane was in cruise flight, the ARTCC controller attempted to contact the pilot with a frequency change; however, the pilot did not respond. The controllers' repeated attempts to contact the pilot throughout the remainder of the flight were unsuccessful as the airplane continued flying a straight course toward ACY at 25,000 ft msl. According to radar data, at 1438 and while about 5 miles northwest of ACY, the airplane began descending from 25,000 ft msl and continued to descend at an average descent rate of about 1,600 ft per minute on a southeast heading until it impacted the Atlantic Ocean about 8 minutes later. As the airplane was descending, two F-16 airplanes departed ACY to relay search and rescue information, and the pilots subsequently found debris.

PERSONNEL INFORMATION

According to the pilot's logbook, he held a commercial pilot certificate with airplane single-engine land, multiengine land, and instrument airplane ratings. His most recent FAA third-class medical certificate was issued on October 26, 2013, with no limitations. He recorded 4,900 hours of total flight experience, 2.5 hours of which were in the 90 days before the accident.

AIRPLANE INFORMATION

According to FAA records, the airplane was manufactured in 2007 and registered to the pilot in December 2007. The most recent annual inspection was performed on June 12, 2015, at which time it had accumulated 472.2 total hours of time in service.

According to the Pilot's Operating Handbook (POH), the airplane was equipped with extended range tanks where fuel was "carried in two integrally sealed sections of the forward, inboard area of the wing." The total usable fuel capacity was 102 gallons, 51 gallons per side. The pilot could set the fuel selector valve to the "left" tank, "right" tank, or "off" position via a recessed three-position handle aft of the console on the floor.

The airplane was also equipped with a four-place oxygen system that provided supplementary oxygen necessary for continuous flight at high altitude. Four oxygen outlets were provided in the overhead panel between the pilot and copilot seats. Oxygen would flow from the outlets only when a mask hose was connected. The pilot's mask was a permanent rebreathing-type mask with a vinyl plastic hose and a built-in microphone for radio communication while using

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oxygen. The oxygen cylinder filler valve was located under a spring-loaded door aft of the baggage door. When in service, the 77.1 cubic-ft tank could supply at least 11 hours of oxygen for a pilot-only operation depending on flight altitude. The airplane was equipped with an oxygen system quantity indicator in the pilot's arm rest. According to a receipt from the most recent annual inspection, the oxygen bottle was serviced at that time. Further, according to stickers placed on the oxygen regulator and the tank, they were both overhauled in May 2013.

Review of the Mooney 100 Hour-Annual Inspection Guide revealed that it included an inspection of the "oxygen system for leaks, proper ON/OFF valve operation & filler for safety of operation."

METEOROLOGICAL INFORMATION

At 1454, the weather reported at ACY indicated variable wind at 4 knots, 10 miles visibility, few clouds at 700 and 3,400 ft above ground level, temperature 24°C, dew point 22°C, and an altimeter setting of 29.75 inches of mercury.

WRECKAGE AND IMPACT INFORMATION

The airplane was located by the United States Coast Guard off the coast of Atlantic City, New Jersey, in about 45-ft-deep water. On September 12, 2015, the airplane was recovered and moved to a salvage facility to facilitate further examination.

The fuselage was severely impact damaged. The inboard 2-ft-long section of the left wing remained attached to the fuselage. The outboard section of the left wing was impact separated and not recovered. The empennage was impact separated from the fuselage. The vertical stabilizer and rudder remained attached to the empennage. The bottom 1-ft-long section of the rudder exhibited impact damage. The left horizontal stabilizer and elevator remained attached to the empennage at all attachment points. The left and right elevator counterweights were impact separated and not recovered. The right horizontal stabilizer and elevator remained attached to the empennage but was impact damaged in the positive direction. The right wing was impact separated from the fuselage and not recovered. Control cable continuity was confirmed from the rudder and elevator to the cockpit through control tube fractures and separations. In addition, control continuity was established from the yoke to both wing roots through control tube fractures and separations.

Both front seats remained attached to the fuselage. Two oxygen lines were secured to the top portion of the cabin. An oxygen pulse oximeter was located in the cabin area of the wreckage, and the pilot was found wearing an oxygen mask. A Hobbs meter was located in the aft section of the fuselage and indicated 477.2 hours of flight time.

The engine was impact separated from the airframe. The rocker box covers were removed, and engine continuity was confirmed from the propeller through the aft section of the engine. All three propeller blades were bent; two of the blades were bent in the same direction, and the third blade was bent in the opposite direction. The fuel line from the fuel manifold valve to the fuel metering unit was removed, and a drop of fluid was noted coming out of the line. The fluid had an odor similar to 100 LL aviation fuel. There were no preimpact anomalies noted with the engine that would have precluded normal operation.

An oxygen tank was located aft of the aft bulkhead. An elbow fitting that was connected to the oxygen regulator assembly, which connected an oxygen line to the tank, was found loose. The fitting could be moved in both directions by hand without resistance.

Three Garmin G1000 SD cards were removed from the wreckage and sent to the NTSB Recorders Laboratory for data download. The G1000 SD cards contained firmware versions and navigation databases that did not record data. No accident data were recovered from the SD cards.

MEDICAL AND PATHOLOGICAL INFORMATION

The Office of the State Medical Examiner for the State of New Jersey performed an autopsy on the pilot. The autopsy report indicated that the pilot died due to "multiple blunt injuries."

The FAA's Bioaeronautical Sciences Research Laboratory, Oklahoma City, Oklahoma, performed toxicological testing of fluid and tissue specimens from the pilot. The specimens tested negative for carbon monoxide, and 26 mg/dL ethanol was detected in the blood. No ethanol was detected in muscle and brain tissue specimens. Diphenhydramine was detected in the liver, and 0.071 ug/ml diphenhydramine was detected in the blood. In addition, chlorthalidone was detected in the liver and blood.

Ethanol can be produced in tissues by postmortem microbial activity, which can result in considerable variations in levels in different tissues. Ingested alcohol is generally distributed throughout the body and levels in different postmortem tissues are usually similar.

Diphenhydramine is a sedating antihistamine used to treat allergy symptoms and as a sleep aid and carries the following Federal Drug Administration warning: "May impair mental and/or physical ability required for the performance of potentially hazardous tasks (e.g. driving, operating heavy machinery)."

Diphenhydramine may also result in altered mood and impaired cognitive and psychomotor performance.. In fact, in a driving simulator study, a single dose of diphenhydramine impaired driving ability more than a blood alcohol concentration of 0.100%. The therapeutic range for diphenhydramine is 0.0250 to 0.1120 ug/ml. Diphenhydramine undergoes postmortem redistribution, which can result in central postmortem levels being about two to three times higher than peripheral levels. Chlorthalidone is a diuretic prescription blood pressure medication that may decrease the recurrence of kidney stones and is not considered impairing.

ADDITIONAL INFORMATION

Performance Calculations

According to the POH, the fuel consumption for the flight using best-power performance data at 25,000 ft pressure altitude, depending on the selected manifold pressure and outside air temperature, would have been between 12.0 and 22.6 gallons of fuel per hour.

Pilot's Handbook of Aeronautical Knowledge - Hypoxia

According to the Pilot's Handbook of Aeronautical Knowledge, Chapter 17, "Aeromedical Factors,"

Hypoxia means 'reduced oxygen' or 'not enough oxygen.'. Hypoxia can be caused by several factors, including an insufficient supply of oxygen, inadequate transportation of oxygen, or the inability of the body tissues to use oxygen.High-altitude flying can place a pilot in danger of becoming hypoxic. Oxygen starvation causes the brain and other vital organs to become impaired.the symptoms of hypoxia vary with the individual..As altitude increases above 10,000 feet, the symptoms of hypoxia increase in severity, and the time of useful consciousness rapidly decreases.

According to the time of useful consciousness chart in the handbook, a pilot has 3 to 5 minutes of useful consciousness at 25,000 ft msl.

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Accident Rpt# WPR17LA191	08/27/2017 1620 PDT	Regis# N8695H	Fortuna, CA	Apt: Rohnerville FOT
Acft Mk/Mdl NORTH AMERICAN NAVION		Acft SN NAV-4-695	Acft Dmg: SUBSTANTIAL	Rpt Status: Prelim Prob Caus: Pending
Eng Mk/Mdl TELEDYNE CONTINENTAL IO-470H			Fatal 0 Ser Inj 0	Flt Conducted Under: FAR 091
Opr Name: JOHN NORBERG		Opr dba:		Aircraft Fire: NONE
				AW Cert: STN

Events

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

Narrative

On August 27, 2017, about 1620 Pacific daylight time, a North American Navion A, N8695H, experienced a total loss of engine power during the initial climb from Rohnerville Airport, Fortuna, California. The airplane was registered to, and operated by, the pilot under the provisions of 14 Code of Federal Regulations (CFR) Part 91. The private pilot, the sole occupant, was not injured; the airplane sustained substantial damage. The local personal flight departed from Fortuna about 1615. Visual meteorological conditions prevailed, and no flight plan had been filed.

The pilot stated that he departed with about 10-12 gallons of fuel on board. After the airplane reached about 1,000 feet above ground level (agl), the engine experienced a total loss power. He attempted to return back to the airport, but was unable to maintain altitude and made an off-airport landing in a pasture about .5 miles from the runway. During the landing, the airplane incurred damage to the firewall.

National Transportation Safety Board - Aircraft Accident/Incident Database

Accident Rpt# ERA17LA328	09/16/2017 1650 EDT	Regis# N38365	Hanover Townshi, PA	Apt: N/a
Acft Mk/Mdl PIPER J3C-65		Acft SN 6973	Acft Dmg: SUBSTANTIAL	Rpt Status: Prelim Prob Caus: Pending
Eng Mk/Mdl CONT MOTOR C-90-8		Acft TT 3200	Fatal 0 Ser Inj 0	Flt Conducted Under: FAR 091
Opr Name: HOSPODAR ROBERT P		Opr dba:		Aircraft Fire: NONE
				AW Cert: STN

Events

1. Maneuvering-low-alt flying - Abrupt maneuver

Narrative

On September 16, 2017, about 1650 eastern daylight time, a Piper J3C-65, N38365, was substantially damaged while maneuvering near Hanover Township, Pennsylvania. The private pilot and pilot-rated passenger received minor injuries. Visual meteorological conditions prevailed and no flight plan was filed for the local personal flight that departed Herron Airport (7G1), New Cumberland, West Virginia. The airplane was operated under the provisions of 14 Code of Federal Regulations Part 91.

According to the pilot, he and the passenger made two previous local flights that day before the accident flight. During the third flight of the day, approximately 1,000 ft above ground level, he started a left turn and the airplane rolled over. The pilot further stated, "it rolled over in a blink of an eye." He then corrected the roll and when the airplane was straight and level, he saw some tree tops. He tried to pull-up but the airplane contacted the tree tops and impacted the ground. The pilot stated there were no mechanical issues with the airplane that would have precluded normal operations.

According to the pilot-rated passenger, they were flying along with friends, who were flying their airplanes. One of their friend's airplanes passed them to the left and they were going to turn left and follow it. During the turn to the left, the airplane rolled over. She further stated, "it rolled over so fast she could not believe it." They contacted some tree tops and impacted the ground. She stated there were no mechanical issues with the airplane that would have precluded normal operations.

Examination of the wreckage by a Federal Aviation Administration inspector revealed that the airplane had sustained damage to the forward and aft wing spar on the left wing. The right main landing gear was separated. The propeller had one blade bent. The bulkhead fuel tank was ruptured. Cable continuity was established to all flight controls.

National Transportation Safety Board - Aircraft Accident/Incident Database

Accident Rpt# GAA17CA408	07/12/2017	1630 AKD	Regis# N8560C	Denali, AK	Apt: N/a
Acft Mk/Mdl PIPER PA 18			Acft SN 18-2713	Acft Dmg: SUBSTANTIAL	Rpt Status: Factual Prob Caus: Pending
Eng Mk/Mdl LYCOMING O-320			Acft TT 5700	Fatal 0 Ser Inj 0	Flt Conducted Under: FAR 135
Opr Name: RAY H. ATKINS			Opr dba: RAY ATKINS REGISTERED GUIDE	Aircraft Fire: NONE	AW Cert: STN

Summary

The pilot of the tailwheel-equipped airplane reported that, while landing on the narrow, unimproved airstrip in gusting wind conditions, the airplane drifted right of center, and he was unable to recover. Subsequently, the right wing impacted trees off the right side of the unimproved airstrip.

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

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

An automated weather observation system about 26 nautical miles from the accident site reported that, about the time of the accident, the wind was from 010ø at 9 knots, gusting to 15 knots.

The pilot reported weather conditions as good other than gusting wind when entering and in the river valley.

Cause Narrative

THE NATIONAL TRANSPORTATION SAFETY BOARD DETERMINED THAT THE CAUSE OF THIS OCCURRENCE WAS: The pilot's failure to maintain directional control while landing on a narrow, unimproved airstrip in gusting wind conditions.

Events

1. Landing - Loss of control on ground

Findings - Cause/Factor

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

Narrative

The pilot of the tailwheel-equipped airplane reported that, while landing on the narrow unimproved airstrip in gusty wind conditions, the airplane drifted right of center, and he was unable to recover. Subsequently, the right wing impacted trees off the right side of the unimproved airstrip.

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

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

An automated weather observation system about 26 nautical miles from the accident site reported, about the time of the accident, the wind from 010ø at 9 knots, gusting to 15 knots.

The pilot reported weather conditions as, good other than gusting wind when entering and in the river valley.

National Transportation Safety Board - Aircraft Accident/Incident Database

Accident Rpt# GAA17CA199	04/03/2017 1930 PDT	Regis# N7822D	Scappoose, OR	Apt: Scappoose Industrial Airpark SPB
Acft Mk/Mdl PIPER PA 22		Acft SN 22-5468	Acft Dmg: SUBSTANTIAL	Rpt Status: Factual Prob Caus: Pending
Eng Mk/Mdl LYCOMING O-320			Fatal 0 Ser Inj 0	Flt Conducted Under: FAR 091
Opr Name: COLUMBIA AVIATION CENTER		Opr dba:		Aircraft Fire: NONE
				AW Cert: STN

Events

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

Narrative

The student pilot in the tailwheel-equipped airplane reported that he accomplished several takeoffs and landings to the asphalt runway during his solo flight in the pattern. He reported that during his sixth landing, the airplane swerved to the left and subsequently swerved to the right during the landing roll. He attempted to control the airplane's direction with rudder pedal application, but he inadvertently applied the toe brakes and the airplane nosed over. The airplane sustained substantial damage to both left side wing struts, the rudder, and the windscreen.

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# WPR17LA208	09/17/2017 1345 PDT	Regis# N2587X	El Cajon, CA	Apt: Gillespie Field Airport SEE
Acft Mk/Mdl PIPER PA 28-161		Acft SN 28-8516083	Acft Dmg: SUBSTANTIAL	Rpt Status: Prelim Prob Caus: Pending
Eng Mk/Mdl LYCOMING O-320 SERIES			Fatal 0 Ser Inj 0	Flt Conducted Under: FAR 091
Opr Name: FINK BRIAN T TRUSTEE		Opr dba:		Aircraft Fire: NONE
				AW Cert: STN

Events

1. Approach-VFR pattern downwind - Loss of engine power (partial)
-

Narrative

On September 17, 2017, about 1345 Pacific daylight time, a Piper 28-161, N2587X, experienced a partial loss of engine power while on downwind for runway 27L at Gillespie Field Airport (SEE), El Cajon, California. The certified flight instructor (CFI) and pilot rated passenger sustained minor injuries; the airplane's left wing was substantially damaged. The airplane was registered to, and operated by, the pilot as a 14 Code of Federal Regulations Part 91 personal flight. Visual meteorological conditions prevailed, and no flight plan was filed. The flight originated from SEE at about 1250.

The pilot reported that after flying around the area they returned to the airport to practice a few touch-and-go landings. The first two left traffic touch-and-goes were uneventful; after the third takeoff, the tower informed them to make right traffic. While on a longer downwind than normal they were cleared to land; the pilot reduced power and started to descend. When he increased power, the engine did not respond and remained at idle; there was no change in engine noise and the engine was not running rough. Both pilots manipulated the throttle several times, but the engine did not respond; they also manipulated the primer, but to no avail. The pilot elected to land the airplane onto a nearby road. During the descent, the airplane struck powerlines and a tree before impacting the roadway and sliding to a stop.

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

National Transportation Safety Board - Aircraft Accident/Incident Database

Accident Rpt# GAA17CA189	03/11/2017 1900 MST	Regis# N288PA	Gila Bend, AZ	Apt: Gila Bend Muni E63
Acft Mk/Mdl PIPER PA 28-181		Acft SN 2843502	Acft Dmg: SUBSTANTIAL	Rpt Status: Factual Prob Caus: Pending
Eng Mk/Mdl LYCOMING O-360-A4M		Acft TT 16919	Fatal 0 Ser Inj 0	Flt Conducted Under: FAR 091
Opr Name: BIRD ACQUISITION LLC		Opr dba:		Aircraft Fire: NONE
				AW Cert: STN

Summary

The flight instructor reported that he and two student pilots were on a night, visual flight rules, instructional flight. The instructor tried to activate the pilot-controlled lighting at the destination airport, but he believed that it was inoperative. He reported that he could see the wind sock on the airfield but that he did not see the "X" near the runway numbers and performed a touch and go. During rotation the instructor reported that, "I heard a red cone make impact with the nose gear section." He had to apply continuous forward pressure to the yoke because the nose continued to pitch up with the trim set to the full-down position. He asserted that the flight characteristics were "acceptable" and continued the flight about 47 nautical miles to their home airport. Upon arrival, the instructor alerted the tower that he had a stabilator malfunction and landed the airplane with zero flaps. The instructor reported that he did not check the notices to airmen (NOTAM). The airplane sustained substantial damage to the stabilator.

The pilot reported that there were no preaccident mechanical malfunctions or failures with the airplane that would have precluded normal operation. According to Federal Aviation Administration NOTAM 03/058, the airport runways were closed at the time of the accident.

Cause Narrative

THE NATIONAL TRANSPORTATION SAFETY BOARD DETERMINED THAT THE CAUSE OF THIS OCCURRENCE WAS: The flight instructor's failure to review the notices to airmen related to the airport, which resulted in his landing on a closed runway and the airplane striking runway closed markers.

Events

1. Landing-aborted after touchdown - Collision with terr/obj (non-CFIT)
2. Takeoff - Collision during takeoff/land

Findings - Cause/Factor

1. Personnel issues-Task performance-Planning/preparation-Flight planning/navigation-Instructor/check pilot - C
2. Personnel issues-Action/decision-Action-Incorrect action performance-Instructor/check pilot - C
3. Environmental issues-Physical environment-Object/animal/substance-Sign/marker-Effect on equipment - C

Narrative

The flight instructor reported that he and two student pilots were on a night, visual flight rules, instructional flight. The instructor tried to activate the pilot controlled lighting at the destination airport, but he believed that it was inoperative. He reported that he could see the wind sock on the airfield but he did not see the "X" near the runway numbers and performed a touch and go. During rotation the instructor reported that, "I heard a red cone make impact with the nose gear section." He had to apply continuous forward pressure to the yoke because the nose continued to pitch up with the trim set to the full down position. He asserted that the flight characteristics were "acceptable" and continued the flight about 47 nautical miles to their home airport. Upon arrival, the instructor alerted tower that he had a stabilator malfunction and landed the airplane with zero flaps. The instructor reported that he did not check the Notices to Airman. The airplane sustained substantial damage to the stabilator.

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

According to Federal Aviation Administration NOTAM 03/058, the airport runways were closed at the time of the accident.

National Transportation Safety Board - Aircraft Accident/Incident Database

Accident Rpt# GAA17CA233	04/11/2017 2152 CDT	Regis# N461RL	Llano, TX	Apt: Llano Muni AQO
Acft Mk/Mdl PIPER PA 34-200T		Acft SN 34-8170001	Acft Dmg: SUBSTANTIAL	Rpt Status: Factual Prob Caus: Pending
Eng Mk/Mdl TELEDYNE CONTINENTAL LTSIO360EB1	Acft TT 5022	Fatal 0	Ser Inj 0	Flt Conducted Under: FAR 091
Opr Name: CLAIBORNE AVIATION LLC	Opr dba:			Aircraft Fire: NONE
				AW Cert: STN

Events

1. Enroute - Fuel exhaustion

Narrative

The pilot in the multi-engine, retractable gear-equipped airplane reported that he was flying in instrument meteorological conditions and leveled off at 8,000 ft. mean sea level. He began to configure the airplane for cruise flight and he realized that the right engine cross-feed fuel selector was positioned for the left tank. The left tank fuel indicator displayed empty and the right fuel indicator displayed 45 gallons remained. He believed that the fuel indicators had malfunctioned and he established an approach to a nearby highway intersection. The pilot landed with the landing gear stowed on the asphalt highway. The airplane sustained substantial damage to the lower fuselage longerons.

Per the National Transportation Safety Board (NTSB) Pilot Aircraft Accident Report, the pilot reported that he became complacent during the flight and vowed to use a checklist in the future. At the recommendation of the NTSB Investigator-in-charge, the pilot has coordinated with his local Federal Aviation Administration Safety Team to help prevent accidents in kind from occurring in the future.

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

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Accident Rpt# GAA17CA392	07/05/2017 1255 EDT	Regis# N6936B	Berlin, NH	Apt: Berlin Rgnl BML
Acft Mk/Mdl PIPER PA22-150		Acft SN 22-4215	Acft Dmg: SUBSTANTIAL	Rpt Status: Factual Prob Caus: Pending
Eng Mk/Mdl LYCOMING O-320 SERIES		Acft TT 2660	Fatal 0 Ser Inj 0	Flt Conducted Under: FAR 091
Opr Name: BIRON, MARK C.		Opr dba:		Aircraft Fire: NONE
				AW Cert: STN

Summary

The pilot of the tailwheel-equipped airplane reported that, during the landing roll, the airplane veered to the left off the runway. He added that he applied full power and "managed to maneuver the plane out of the ground loop but started taking out runway lights" as he maneuvered the airplane back toward the runway. The airplane impacted a runway light and two taxiway signs, damaging the main landing gear. The airplane then "flew over the runway," landed, and the main landing gear collapsed.

The airplane sustained substantial damage to the fuselage and left wing lift struts.

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

Cause Narrative

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

Events

1. Landing - Loss of control on ground
2. Landing-landing roll - Runway excursion
3. Landing-landing roll - Attempted remediation/recovery
4. Landing-landing roll - Collision with terr/obj (non-CFIT)
5. Landing-landing roll - Landing gear collapse

Findings - Cause/Factor

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

Narrative

The pilot of the tailwheel-equipped airplane reported that, during the landing roll, the airplane veered to the left off the runway. He added that he applied full power and "managed to maneuver the plane out of the ground loop but started taking out runway lights" as he maneuvered the airplane back toward the runway. The airplane impacted a runway light and two taxiway signs, damaging the main landing gear. The airplane then "flew over the runway", landed, and the main landing gear collapsed.

The airplane sustained substantial damage to the fuselage and left wing lift struts.

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

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Accident Rpt# WPR15FA256 09/03/2015 917 PDT Regis# N8441B Santee, CA Apt: Gillespie Field SEE
Acft Mk/Mdl PIPER PA28-161 Acft SN 28-8216005 Acft Dmg: SUBSTANTIAL Rpt Status: Factual Prob Caus: Pending
Eng Mk/Mdl LYCOMING O-320-D3G Acft TT 14989 Fatal 2 Ser Inj 0 Flt Conducted Under: FAR 091
Opr Name: GOLDEN STATE FLYING CLUB Opr dba: Aircraft Fire: GRD
AW Cert: STN

Summary

The flight instructor and student pilot were conducting touch-and-go takeoffs and landings in the airport traffic pattern. While on the upwind leg of the traffic pattern following the second takeoff, the airplane entered a steep left turn and impacted a residential area; a postimpact fire ensued. One witness reported that he heard the airplane's engine "shut off," and stated that it sounded as though the engine was "trying to restart."

Investigators could not determine who was manipulating the flight controls at the time of the accident.

Examination of the airframe and flight controls revealed no mechanical anomalies that would have precluded normal operation.

The engine examination revealed no internal mechanical anomalies that would have precluded normal operation. The left magneto was not located. A teardown of the right magneto revealed that the internal components had been improperly assembled; the distributor gear electrode was not seated properly, and the distributor drive gear was stuck inside the magneto. Given the improper assembly of the right magneto it is likely that the magneto had failed to operate properly, which subsequently resulted in a rough running engine and a partial loss of engine power. It is likely that the flight instructor and student were distracted by the partial loss of engine power, and during the turn toward the open field, lost aircraft control and stalled the airplane, and subsequently hit flat terrain.

Cause Narrative

THE NATIONAL TRANSPORTATION SAFETY BOARD DETERMINED THAT THE CAUSE OF THIS OCCURRENCE WAS: The pilots' failure to maintain airplane control following a partial loss of engine power after takeoff, which resulted in an aerodynamic stall. Contributing to the accident was the partial loss of engine power due to a failure of the right magneto.

Events

1. Initial climb - Loss of engine power (partial)
2. Initial climb - Abrupt maneuver
3. Initial climb - Aerodynamic stall/spin

Findings - Cause/Factor

1. Aircraft-Aircraft oper/perf/capability-Performance/control parameters-Directional control-Not attained/maintained - C
2. Personnel issues-Task performance-Use of equip/info-Aircraft control-Instructor/check pilot - C
3. Personnel issues-Task performance-Use of equip/info-Aircraft control-Student/instructed pilot - C
4. Aircraft-Aircraft power plant-Ignition system-Magneto/distributor-Incorrect service/maintenance - F
5. Personnel issues-Action/decision-Info processing/decision-Decision making/judgment-Instructor/check pilot
6. Personnel issues-Action/decision-Info processing/decision-Decision making/judgment-Student/instructed pilot

Narrative

HISTORY OF FLIGHT

On September 3, 2015, about 0917 Pacific daylight time, a Piper PA-28-161 airplane, N8441B, impacted a residential area in Santee, California, shortly after takeoff from Gillespie Field Airport (SEE), San Diego/El Cajon, California. The flight instructor and student pilot were fatally injured, and the airplane was substantially damaged. The instructional flight was operated by Golden State Flying Club, El Cajon, California, under the provisions of 14 Code of Federal Regulations Part 91. Visual meteorological conditions prevailed, and no flight plan had been filed for the local flight.

According to the Federal Aviation Administration (FAA), air traffic tower personnel at SEE reported that the airplane had been conducting touch-and-go takeoffs and landings on runway 27R. The controller stated that after completion of the second touch-and-go, he expected that the airplane would turn right onto the crosswind leg of the traffic pattern. However, the airplane turned left and descended rapidly toward terrain west of the field. There were no mayday calls received from the accident airplane.

A witness in a vehicle watched the airplane take off and follow a normal climb path. Then he saw the left-wing dip, which initially he thought was a normal traffic

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pattern turn. He realized that the left wing continued to dip "more severely than normal," and the left bank increased as the airplane flew toward an open field at the west end of the runway. As the airplane continued in a tight left turn, it lost altitude "very quickly," and subsequently impacted the ground.

A witness located near the accident site reported that he heard the airplane's engine "shut off," and stated that it sounded as if the engine was "trying to restart." The airplane then impacted three vehicles, and came to rest inverted in a driveway; a postaccident fire ensued.

PERSONNEL INFORMATION

AIRCRAFT INFORMATION

According to the engine logbooks, the engine was overhauled by Ly-Con Rebuilding company in Visalia, California, and installed on the accident airplane June 25, 2014. At that time, new Slick Champion Aerospace magnetos were installed. A review of the flight schools squawk sheets revealed no identified issues with the magnetos.

WRECKAGE AND IMPACT INFORMATION

The entirety of the airplane was located at the accident site; and sustained thermal damage during a postcrash fire. The left wing had separated from the airplane, and came to rest on top of the right wing.

The fuselage and cockpit area sustained ground impact damage. The flap handle was in between the zero detent and the 10ø detent. The ignition switch was found with the key broken inside and the switch was positioned to the "left mag." The fuel selector was positioned to the right fuel tank position. The left-wing fuel tank was breached, but contained 13 gallons of blue-colored liquid consistent with 100-LL aviation fuel. About 23 gallons of fuel was retrieved from the right wing.

The engine remained attached to its mount; the mount was separated from the firewall. The engine assembly came to rest adjacent to the airplane. Several of the rear case accessories separated from their respective mounting pads. The left magneto separated from its mounting pad and was not located.

The propeller remained attached to the engine crankshaft with the spinner exhibiting aft crush damage. One blade was bent forward and the other blade was bent aft. Both propeller blades had minor leading edge and chordwise damage, and remained intact.

MEDICAL AND PATHOLOGICAL INFORMATION

Flight Instructor

The County of San Diego, Office of the Medical Examiner, San Diego, California, performed the autopsy of the flight instructor. The cause of death was reported as multiple blunt force injuries, with a contributing cause of traumatic asphyxia. The manner of death was listed as an accident.

The FAA's Bioaeronautical Sciences Research Laboratory, Oklahoma City, Oklahoma performed toxicology testing on submitted specimens from the pilot. The test results yielded negative findings for carbon monoxide, cyanide, ethanol, and drugs of abuse.

Student Pilot

The County of San Diego, Office of the Medical Examiner performed the autopsy of the student pilot. The cause of death was reported as blunt force head injuries. The manner of death was listed as an accident.

The FAA's Bioaeronautical Sciences Research Laboratory performed toxicology testing on submitted specimens from the student pilot. The test results yielded negative findings for carbon monoxide, cyanide, and ethanol. The results for tested drugs of abuse were positive for the following:

Anhydroecgonine Methyl Ester detected in urine

Anhydroecgonine Methyl Ester not detected in blood

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0.101 (ug/ml, ug/g) Benzoylcegonine detected in urine
Benzoylcegonine not detected in blood
Ecgonine Methyl Ester detected in urine
Ecgonine Methyl Ester detected in blood
2.047 (ug/ml, ug/g) Phentermine detected in urine
0.1 (ug/ml, ug/g) Phentermine detected in blood (Iliac)
0.099 (ug/ml, ug/g) Phentermine detected in serum

According to the FAA, Benzoylcegonine is the predominate metabolite of cocaine, and is used as an indicator of cocaine use. Anhydroecgonine methyl ester is a unique pyrolysis product that is formed when cocaine is smoked, and is a possible indicator of "crack cocaine" use. Ecognine methyl ester is an inactive minor metabolite of cocaine. Phentermine is a schedule IV, short-term use, prescription appetite suppressant. The FAA reported that phentermine is not an acceptable medication for use while performing airman duties.

The toxicological findings indicated that although the student had used cocaine hours to a few days before the accident, there was no parent (active) drug detected.

TEST AND RESEARCH INFORMATION

The examination of the airframe revealed no preimpact failures were noted with any flight control surface or flight control system components.

The engine was manually rotated using a drive tool at the vacuum pump drive.

The engine rotated freely, and compression was produced in all four cylinders, which also established valve and gear train continuity. The right magneto (non-impulse coupled magneto) remained attached to the engine at its mounting pad. The magneto was removed and visually examined. During manual rotation of the magneto drive, internal friction was detected and audible grinding was heard.

Further examination of the right magneto revealed no obvious signs of damage. Maintenance personnel were not able to manually rotate the magneto; however, the top gear rotated freely. When the magneto was opened, the distributor gear electrode was not seated properly, and the distributor drive gear was stuck inside the magneto. Once disassembled, the cam follower appeared to be in good condition and the points appeared to be brand new. The rotor drive lower ball bearing was frozen; however, the upper bearing rotated freely with no binding. There was rust present in the rotor drive, but it could not be determined whether it was present before the accident or formed after the accident. The internal components were all in good condition and each individual test of the capacitor, electrodes, and coil were within manufacturer specifications; and the components were in good condition.

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Accident Rpt# GAA17CA419	07/14/2017 813 CDT	Regis# N82629	Fort Worth, TX	Apt: Fort Worth Meacham Intl FTW
Acft Mk/Mdl PIPER PA28-161		Acft SN 28-8216225	Acft Dmg: SUBSTANTIAL	Rpt Status: Factual Prob Caus: Pending
Eng Mk/Mdl LYCOMING O-320-D3G		Acft TT 11728	Fatal 0 Ser Inj 0	Flt Conducted Under: FAR 091
Opr Name: K. M. MILOUD		Opr dba:		Aircraft Fire: NONE
				AW Cert: STN

Summary

The student pilot reported that, during the final landing of his solo flight, the airplane bounced and that he attempted to correct, but the propeller struck the ground. Subsequently, he stopped the airplane and was towed back to the ramp.

The airplane sustained substantial damage to the firewall.

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

Cause Narrative

THE NATIONAL TRANSPORTATION SAFETY BOARD DETERMINED THAT THE CAUSE OF THIS OCCURRENCE WAS: The student pilot's improper landing flare, which resulted in a bounced landing and a propeller strike.

Events

1. Landing - Abnormal runway contact
2. Landing - Attempted remediation/recovery
3. Landing - Dragged wing/rotor/float/other

Findings - Cause/Factor

1. Aircraft-Aircraft oper/perf/capability-Performance/control parameters-Landing flare-Not attained/maintained - C
2. Personnel issues-Task performance-Use of equip/info-Aircraft control-Student/instructed pilot - C

Narrative

The student pilot reported that, during the final landing of his solo flight, the airplane bounced and he attempted to correct, but the propeller struck the ground. Subsequently, he stopped the airplane and was towed back to the ramp.

The airplane sustained substantial damage to the firewall.

The student 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# ERA17LA312	09/02/2017 1810 EDT	Regis# N132AV	Lyndonville, VT	Apt: Caledonia County CDA
Acft Mk/Mdl PIPER PA28-181		Acft SN 28-8490111	Acft Dmg: SUBSTANTIAL	Rpt Status: Prelim Prob Caus: Pending
Eng Mk/Mdl LYCOMING O&VO-360 SER		Acft TT 4288	Fatal 0 Ser Inj 0	Flt Conducted Under: FAR 091
Opr Name: VORTEX AVIATION LLC		Opr dba:		Aircraft Fire: NONE
				AW Cert: STN

Events

1. Takeoff - Loss of control in flight

Narrative

On September 2, 2017, about 1810 eastern daylight time, a Piper PA-28-181, N132AV, was substantially damaged during collision with terrain during takeoff from Caledonia County Airport (CDA), Lyndonville, Vermont. The private pilot and two passengers were not injured. Visual meteorological conditions prevailed, and no flight plan was filed for the personal flight which was conducted under the provisions of 14 Code of Federal Regulations Part 91.

In a written statement, the pilot said he performed a preflight inspection of the airplane in front of the five passengers he intended to fly that day with no anomalies noted. He demonstrated the corresponding movements between the flight controls, and the flight-control surfaces; highlighting the corresponding movement between the ailerons and the control yoke.

The pilot said he then completed a 20-minute flight with two of the passengers and returned to CDA. There, a friend volunteered to fly the fifth passenger in his airplane while the pilot flew with the third and fourth passenger. The pilot cautioned his friend about the density altitude, and how his airplane "needed more time to build speed" during the takeoff roll.

After taxi, the pilot positioned the airplane on the runway for departure and performed a flight control deflection check. He said there was corresponding movement with the flight control surfaces, but that the resistance in the controls was light. His concern led him to perform the check 8 times, before he initiated the takeoff.

The pilot stated that after rotation, the airplane was unresponsive, or slow to respond, in the roll axis when he applied aileron corrections. He elected to close the throttle, and perform a forced landing to the grass area beyond the departure end of the runway. The landing resulted in substantial damage to the wings, cabin, empennage, and the tail section of the airplane.

The pilot held a private pilot certificate with a rating for airplane single-engine land. The pilot reported 310 total hours of flight experience, of which 305 hours were in the accident airplane make and model.

According to Federal Aviation Administration (FAA) records, the airplane was manufactured in 1984 and had accrued approximately 4,287.8 total aircraft hours. Its most recent annual inspection was completed June 8, 2017.

At 1855, the weather recorded at CDA included clear skies and calm wind. The temperature was 18°C, and the dew point was 6°C. The altimeter setting was 30.19 inches of mercury.

The wreckage was examined at the accident site by an FAA inspector and a Vermont Agency of Transportation operations manager, and all major components were accounted for at the scene. The airplane came to rest upright about 700 ft beyond the departure end of runway 20, and about 250 ft left of the runway centerline.

Flight control continuity was established from the individual flight controls to all flight control surfaces, except for the left aileron. The aileron was significantly impact damaged, and its control rod was fractured. The corresponding fractured control-rod piece inside the wing was observed to move with control yoke inputs.

Each half of the fractured control rod was harvested from the wreckage and retained for further examination at the NTSB Materials Laboratory.

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Accident Rpt# GAA17CA185 03/11/2017 810 CST Regis# N345M Okmulgee, OK Apt: Okmulgee Rgnl OKM
Acft Mk/Mdl PIPISTREL DOO AJDOVSCINA VIRUS-SW Acft SN 621 SW 100 Acft Dmg: SUBSTANTIAL Rpt Status: Factual Prob Caus: Pending
Eng Mk/Mdl ROTAX 912 ULS Acft TT 104 Fatal 0 Ser Inj 0 Flt Conducted Under: FAR 091
Opr Name: RAYLON R. ROGERS Opr dba: Aircraft Fire: NONE
AW Cert: SPE

Summary

The pilot reported that he entered the traffic pattern for runway 4 about 800 ft above the ground. He added that, after touchdown, he did not see the fence that ran across the runway until the airplane was about 300 ft from it. Subsequently, the airplane impacted the fence.

The airplane sustained substantial damage to the fuselage and right wing.

A review of the airport's Federal Aviation Administration (FAA) chart supplement (02 MAR 2017 to 27 APR 2017) revealed that the runway the pilot landed on was depicted in the airport sketch with two "X" marks, which indicated that the runway was closed. A review of the visual flight rules sectional chart in publication at the time of the accident revealed that the surface the pilot landed was depicted along with the other runway surface at the airport.

The FAA Pilot's Handbook of Aeronautical Knowledge stated, in part:

Marking and Lighting of Permanently Closed Runways and Taxiways

For runways and taxiways that are permanently closed, the lighting circuits are disconnected. The runway threshold, runway designation, and touchdown markings are obliterated and yellow "Xs" are placed at each end of the runway and at 1,000-foot intervals.

A review of photographs of the "X" markings on the surface the pilot landed on showed that only fragments of faded yellow paint were visible and that what was visible did not resemble an "X."

Code of Federal Regulations Section 91.103, "Preflight Action," stated, in part:

Each pilot in command shall, before beginning a flight, become familiar with all available information concerning that flight. This information must include- (a) For a flight under IFR [instrument flight rules] or a flight not in the vicinity of an airport, weather reports and forecasts, fuel requirements, alternatives available if the planned flight cannot be completed, and any known traffic delays of which the pilot in command has been advised by ATC [air traffic control]; (b) For any flight, runway lengths at airports of intended use, and the takeoff and landing distance information.

The pilot did not report that he consulted the FAA chart supplement before landing, which depicted the runway closed.

Cause Narrative

THE NATIONAL TRANSPORTATION SAFETY BOARD DETERMINED THAT THE CAUSE OF THIS OCCURRENCE WAS: The pilot's failure to review the Federal Aviation Administration chart supplement before landing, which resulted in his landing on a closed runway and collision with a fence. Contributing to the accident was the airport's failure to adequately mark the physical surface of the runway to indicate that it was permanently closed.

Events

1. Prior to flight - Preflight or dispatch event
2. Landing-landing roll - Miscellaneous/other

Findings - Cause/Factor

1. Personnel issues-Task performance-Planning/preparation-(general)-Pilot - C
2. Environmental issues-Physical environment-Object/animal/substance-Fence/fence post-Effect on equipment
3. Environmental issues-Operating environment-Airport facilities/design-Runway markings/signage-Effect on operation

Narrative

The pilot reported that, he entered the traffic pattern for runway 4, about 800 ft above the ground. He added that, after touch down he did not see the fence that ran across the runway until the airplane was about 300 ft from it. Subsequently the airplane impacted the fence.

The airplane sustained substantial damage to the fuselage and right wing.

A review of the Okmulgee Regional Airport Federal Aviation Administration (FAA) chart supplement (02 MAR 2017 to 27 APR 2017) revealed that the runway the pilot landed on was depicted in the airport sketch with two "X" marks, which indicated the runway was closed. A review of the visual flight rules sectional chart in publication at the time of the accident revealed that the surface the pilot landed was depicted, along with the other runway surface at the airport.

The FAA Pilot's Handbook of Aeronautical Knowledge stated in part:

Marking and Lighting of Permanently Closed Runways and Taxiways

For runways and taxiways that are permanently closed, the lighting circuits are disconnected. The runway threshold, runway designation, and touchdown markings are obliterated and yellow "Xs" are placed at each end of the runway and at 1,000-foot intervals.

A review of photographs of the "X" markings on the surface the pilot landed on, showed that only fragments of faded yellow paint were visible, and what was visible did not resemble an "X".

The code of federal regulations within part 91.103 titled "Preflight Action" stated in part:

Each pilot in command shall, before beginning a flight, become familiar with all available information concerning that flight. This information must include- (a) For a flight under IFR or a flight not in the vicinity of an airport, weather reports and forecasts, fuel requirements, alternatives available if the planned flight cannot be completed, and any known traffic delays of which the pilot in command has been advised by ATC; (b) For any flight, runway lengths at airports of intended use, and the following takeoff and landing distance information: The pilot did not report that he consulted the FAA chart supplement prior to landing, which depicted the runway closed.

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Accident Rpt# GAA17CA551 09/24/2017 925 PDT Regis# N177SR Santa Barbara, CA Apt: Santa Barbara Muni SBA
Acft Mk/Mdl ROBINSON HELICOPTER R22-BETA Acft SN 3275 Acft Dmg: SUBSTANTIAL Rpt Status: Prelim Prob Caus: Pending
Fatal 0 Ser Inj 0 Flt Conducted Under: FAR 091
Opr Name: TUMBLEWEED LEASING CO INC Opr dba: Aircraft Fire: NONE

National Transportation Safety Board - Aircraft Accident/Incident Database

Accident Rpt# GAA17CA151 02/13/2017 2130 PST Regis# N4534G Holtville, CA Apt: N/a
Acft Mk/Mdl ROBINSON HELICOPTER Acft SN 2034 Acft Dmg: SUBSTANTIAL Rpt Status: Factual Prob Caus: Pending
Eng Mk/Mdl LYCOMING O-540-F1B5 Fatal 0 Ser Inj 0 Flt Conducted Under: FAR 137
Opr Name: HAMMOND CHARLIE D Opr dba: Aircraft Fire: NONE
AW Cert: STN

Summary

The pilot in the skid-equipped helicopter reported that he had performed an agricultural application flight. The helicopter was within 100 lbs of the maximum gross weight at the time of the accident. The helicopter was headed south, and the pilot made a left turn to the west, and the helicopter began to settle with power. The pilot noticed the low rotor rpm, and the helicopter touched down on the soft dirt surface and rolled over. The helicopter sustained substantial damage to both rotor drive systems and the fuselage and tailboom.

In an interview with National Transportation Safety Board investigator-in-charge, the pilot stated that the helicopter was about 20 ft above ground level when he noticed the low rotor rpm horn and that the airspeed was about 20 knots. He recalled that, when he made the left turn, he was operating with a tailwind. He added that the design of the hopper was not approved by the Federal Aviation Administration to be jettisoned.

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

Additional Information

According to the Federal Aviation Administration (FAA) Helicopter Flying Handbook FAA-8083-21A (HFH) (pg. 2-4, para. 5), turns in a helicopter increase the load factor exponentially, ultimately increasing the power requirement that is necessary to maintain the helicopter's altitude. Left pedal turns increase the quantity of anti-torque produced by the tail rotor, by demanding additional power from the 260-brake horsepower engine. Pilot flight control inputs demanding more power than the engine is capable of producing, with respect to the atmospheric conditions, adversely affects the helicopters ability to sustain its altitude. Available engine power is directly correlated to main and tail rotor RPM.

FAA-8083-21A (pg. 7-2, para. 5), "Factors Affecting Performance," stated:

The wind direction is also an important consideration. Headwinds are the most desirable as they contribute to the greatest increase in performance. Strong crosswinds and tailwinds may require the use of more tail rotor thrust to maintain directional control. This increased tail rotor thrust absorbs power from the engine, which means there is less power available to the main rotor for the production of lift.

FAA-8083-21A (pg. 2-4, para. 6), "Weight," stated:

To overcome this additional load factor, the helicopter must be able to produce more lift. If excess engine power is not available, the helicopter either descends or has to decelerate in order to maintain the same altitude. The load factor and, hence, apparent gross weight increase is relatively small in banks up to 30°. Even so, under the right set of adverse circumstances, such as high DA, turbulent air, high gross weight, and poor pilot technique, sufficient or excess power may not be available to maintain altitude and airspeed.

FAA-8083-21A (pg. 2-5, para. 1), "Weight," further stated:

Regardless of how much weight one can carry or the engine power that it may have, they (helicopters) are all susceptible to aerodynamic overloading. Unfortunately, if the pilot attempts to push the performance envelope the consequence can be fatal. Aerodynamic forces effect every movement in a helicopter, whether it is increasing the collective or a steep bank angle. Anticipating results from a particular maneuver or adjustment of a flight control is not good piloting technique. Instead pilots need to truly understand the capabilities of the helicopter under any and all circumstances and plan to never exceed the flight envelope for any situation.

Cause Narrative

THE NATIONAL TRANSPORTATION SAFETY BOARD DETERMINED THAT THE CAUSE OF THIS OCCURRENCE WAS: The pilot's initiation of a left turn at a low altitude with low airspeed and a tailwind while operating near maximum gross weight, which resulted in the helicopter losing altitude, touching down on a dirt surface, and a subsequent dynamic rollover.

Events

1. Maneuvering-low-alt flying - Low altitude operation/event
2. Maneuvering-low-alt flying - Aerodynamic stall/spin
3. Maneuvering-low-alt flying - Collision with terr/obj (non-CFIT)
4. Maneuvering-low-alt flying - Off-field or emergency landing

Findings - Cause/Factor

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

Narrative

The pilot in the skid-equipped helicopter reported that he had performed an aerial application flight. The helicopter was within 100 pounds of the maximum gross weight at the time of the accident. The helicopter was headed south and the pilot made a left turn to the west and began to settle with power. The pilot noticed the low rotor revolutions per minute (RPM) and the helicopter touched down on the soft dirt surface and rolled over. The helicopter sustained substantial damage to both rotor drive systems, fuselage and tailboom.

In an interview with National Transportation Safety Board investigator-in-charge the pilot stated that the helicopter was about 20 feet above ground level when he noticed the low rotor RPM horn and the airspeed was about 20 knots. He recalled that when he made the left turn, he was operating with a tailwind. He added that the design of the hopper was not approved by the Federal Aviation Administration to be jettisoned.

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

Additional Information

According to the Federal Aviation Administration (FAA) Helicopter Flying Handbook FAA-8083-21A (HFH) (pg. 2-4, para. 5), turns in a helicopter increase the load factor exponentially, ultimately increasing the power requirement that is necessary to maintain the helicopter's altitude. Left pedal turns increase the quantity of anti-torque produced by the tail rotor, by demanding additional power from the 260-brake horsepower engine. Pilot flight control inputs demanding more power than the engine is capable of producing, with respect to the atmospheric conditions, adversely affects the helicopters ability to sustain its altitude. Available engine power is directly correlated to main and tail rotor RPM.

The FAA Helicopter Flying Handbook FAA-8083-21A (pg. 7-2, para. 5) per the section entitled Factors Affecting Performance:

The wind direction is also an important consideration. Headwinds are the most desirable as they contribute to the greatest increase in performance. Strong crosswinds and tailwinds may require the use of more tail rotor thrust to maintain directional control. This increased tail rotor thrust absorbs power from the engine, which means there is less power available to the main rotor for the production of lift.

The FAA Helicopter Flying Handbook FAA-8083-21A (pg. 2-4, para. 6) entitled Weight, asserts:

To overcome this additional load factor, the helicopter must be able to produce more lift. If excess engine power is not available, the helicopter either descends or has to decelerate in order to maintain the same altitude. The load factor and, hence, apparent gross weight increase is relatively small in banks up to 30°. Even so, under the right set of adverse circumstances, such as high DA, turbulent air, high gross weight, and poor pilot technique, sufficient or excess power may not be available to maintain altitude and airspeed.

The FAA Helicopter Flying Handbook FAA-8083-21A (pg. 2-5, para. 1) entitled Weight, further states:

Regardless of how much weight one can carry or the engine power that it may have, they (helicopters) are all susceptible to aerodynamic overloading. Unfortunately, if the pilot attempts to push the performance envelope the consequence can be fatal. Aerodynamic forces effect every movement in a helicopter, whether it is increasing the collective or a steep bank angle. Anticipating results from a particular maneuver or adjustment of a flight control is not good piloting technique. Instead pilots need to truly understand the capabilities of the helicopter under any and all circumstances and plan to never exceed the flight envelope for any situation.