

# National Transportation Safety Board - Aircraft Accident/Incident Database

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Accident Rpt# GAA17CA292	05/20/2017 1730 MST	Regis# N168AT	Casa Grande, AZ	Apt: Casa Grande Muni CGZ
Acft Mk/Mdl AIRTIME AIRCRAFT INC CYGNET-NO	Acft SN 00107	Acft Dmg: SUBSTANTIAL	Rpt Status: Factual	Prob Caus: Pending
Eng Mk/Mdl ROTAX 912	Acft TT 35	Fatal 0	Ser Inj 0	Flt Conducted Under: FAR 091
Opr Name: DENTON, WALTER G.	Opr dba:	Aircraft Fire: NONE	AW Cert: LTSP	

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## Events

2. Takeoff - Loss of control on ground

## Narrative

The flight instructor in the amphibious float-equipped weight-shift controlled trike reported that, he was demonstrating multiple touch-and-go landings for the student pilot, who was in the front seat of the tandem seat trike. He added that during the final approach, wind was "light and variable" and the landing was "smooth and stable." He further added that as power was applied to takeoff, a "gust of wind and dust came in from our left and got under the wing." Subsequently, the trike veered off the runway to the right and rolled over.

The wing and fuselage sustained substantial damage.

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

An automated weather observation station, at the accident airport, about the time of the accident, recorded wind 330ø at 9 knots. The flight instructor reported the takeoff was on runway 5.

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Accident Rpt# CEN17LA265	07/09/2017 1315	Regis# N111JW	Milesville, SD	Apt: Philip PHP
Acft Mk/Mdl CUBCRAFTERS INC CC11-160		Acft SN CC11-00360	Acft Dmg: SUBSTANTIAL	Rpt Status: Prelim Prob Caus: Pending
Eng Mk/Mdl TITAN OX-340CC-B3J3			Fatal 0 Ser Inj 1	Flt Conducted Under: FAR 091
Opr Name: WILLIAM K SWAYNE		Opr dba:		Aircraft Fire: NONE
				AW Cert: LTSP

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## Events

1. Enroute - Loss of engine power (total)
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## Narrative

On July 9, 2017, about 1315 mountain daylight time, a Cubcrafters CC11-160 airplane, N111JW, was substantially damaged during a forced landing following a loss of engine power during cruise flight near Milesville, South Dakota. The pilot sustained serious injuries. The airplane was registered to and operated by the pilot as a 14 Code of Federal Regulations Part 91 personal flight. Day visual meteorological conditions prevailed. The flight was not operated on a flight plan. The local flight originated from the Philip Airport (PHP), Philip, South Dakota, about 1300.

The pilot informed Federal Aviation Administration inspectors that the engine lost power without warning during cruise flight. His efforts to restore engine power were not successful and the subsequent forced landing resulted in damage to the fuselage and both wings.

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Accident Rpt# ERA15FA245	06/21/2015 1532 EDT	Regis# N35EP	Holly Ridge, NC	Apt: Topsail Airpark 01NC
Acft Mk/Mdl CZECH SPORT AIRCRAFT AS PIPER	Acft SN P1001059	Acft Dmg: SUBSTANTIAL	Rpt Status: Factual	Prob Caus: Pending
Eng Mk/Mdl ROTAX 912 ULS	Acft TT 75	Fatal 1 Ser Inj 0	Flt Conducted Under: FAR 091	
Opr Name: POWELL DILLARD M	Opr dba:	Aircraft Fire: NONE		AW Cert: LTSP

## Summary

Earlier on the day of the accident, a condition inspection of the light-sport airplane had been completed, and the purpose of the flight was to relocate the airplane to its home base airport. About 1500, the pilot's wife dropped the pilot off at the airport. The temperature was in the "upper 90s," and, since the airplane was equipped with a clear cockpit canopy, it would have been hot inside of the airplane. According to the pilot's wife, it was the pilot's habit to leave the canopy up when it was hot until he was ready to depart.

About 1530, the pilot called his wife from the airplane before he took off and advised her that it would take him 15 minutes to fly to the home base airport and that he would wait for her to pick him up in the air-conditioned office of the fixed-base operator (FBO) at the field. However, when she arrived at the FBO, he was not there. A search was initiated, and the airplane wreckage was found in a wooded area about 1.1 miles west of the departure airport. Recorded data downloaded from a portable GPS unit that was onboard the airplane revealed that the airplane was airborne about 1 minute before reaching a peak GPS altitude of 309 ft and a derived groundspeed of 104 knots. This was the final recorded position. Examination of the accident site and wreckage revealed that the airplane struck trees in a steep, nose-low attitude and that the pilot was ejected from the cockpit. Examination of the damage to the canopy, the cockpit sill, and the canopy locking mechanism indicated that the canopy was not closed and locked when the airplane impacted the trees. This most likely occurred due to the pilot delaying closing of the canopy due to the high temperature (as was his habit) and then forgetting to lock it. Although the airplane's Pilot's Operating Handbook advised that the canopy could not be closed in flight and that there would be no change of flight characteristics with the canopy open, it is likely that the pilot was attempting to close the canopy in flight and lost control of the airplane, which resulted in an uncontrolled descent into the trees.

The pilot's four-point harness was intact and attached to its attachment fittings; however, the center buckle assembly was found unlatched. This may have been the result of the pilot forgetting to buckle the harness, or he may have unlatched it so he could reach the canopy sill and/or the latching mechanism in an attempt to close the canopy in flight. Other indicators that the pilot may have been in a hurry to get airborne due to the high temperature included his failure to arm the emergency locator transmitter, which was found in the "off" position, and to remove the ballistic recovery system activation handle safety pin with its "REMOVE BEFORE FLIGHT" flag, which was found in place. The pilot's autopsy revealed that his heart was mildly enlarged, and his coronary arteries were significantly narrowed by atherosclerotic plaques. Microscopic evaluation of heart tissue also demonstrated mild interstitial fibrosis. Toxicological testing revealed medications that were consistent with the pilot's heart disease. Although the pilot's heart disease put him at risk for physical symptoms, such as chest pain, shortness of breath, or a heart rhythm that could not produce enough blood pressure to stay awake, neither the heart disease nor his medications would have impaired his judgment or increased his risk of becoming distracted by the canopy issue. Thus, the pilot's medical conditions and medications most likely did not contribute to the cause of this accident.

## Cause Narrative

THE NATIONAL TRANSPORTATION SAFETY BOARD DETERMINED THAT THE CAUSE OF THIS OCCURRENCE WAS: The pilot's failure to maintain airplane control after the cockpit canopy opened during initial climb. Contributing to the accident was the pilot's failure to securely lock the canopy before takeoff.

## Events

1. Prior to flight - Miscellaneous/other
2. Initial climb - Miscellaneous/other
3. Initial climb - Attempted remediation/recovery
4. Initial climb - Loss of control in flight
5. Uncontrolled descent - Collision with terr/obj (non-CFIT)

## Findings - Cause/Factor

1. Personnel issues-Task performance-Use of equip/info-Aircraft control-Pilot - C
2. Aircraft-Aircraft oper/perf/capability-Performance/control parameters-(general)-Not attained/maintained - C
3. Aircraft-Aircraft structures-Doors-Passenger/crew doors-Incorrect use/operation - F
4. Personnel issues-Task performance-Use of equip/info-Use of equip/system-Pilot - F
5. Personnel issues-Physical-Health/Fitness-Predisposing condition-Pilot
6. Personnel issues-Physical-Health/Fitness-Use of medication/drugs-Pilot

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## Narrative

### HISTORY OF FLIGHT

On June 21, 2015, about 1532 eastern daylight time, a Czech Sport Aircraft Piper Sport, N35EP, was substantially damaged when it impacted trees and terrain after a loss of control during climb after departing from Topsail Airpark (01NC), Holly Ridge, North Carolina. The private pilot was fatally injured. Visual meteorological conditions prevailed, and no flight plan was filed for the 14 Code of Federal Regulations (CFR) Part 91 personal flight, which was destined for the Albert J. Ellis Airport (OAJ), Jacksonville, North Carolina.

According to his wife, on the day of the accident, the pilot went to the airport to check on the airplane after they had lunch together. When he arrived at the airport, he met with the mechanic who was completing the condition inspection on the airplane, paid him for his services, and received a receipt. The pilot then went home but planned to return later and fly the airplane back to OAJ where it was based.

About 1500, the pilot's wife dropped him off at the airport. The temperature was in the "upper 90s," the humidity was high, and there was little or no breeze. According to the pilot's wife, due to the airplane's "clear roof" (canopy), it would get hot inside of the airplane, and it was her husband's habit to leave the canopy up when it was hot until he was ready to depart.

The pilot's wife reported that he called her from the airplane before he took off at 1524 and advised her that it would take 45 minutes for her to reach OAJ, and he would be there in 15 minutes. He also advised her that he would meet her in the air-conditioned office of the fixed base operator (FBO) at OAJ. However, when she arrived at the FBO, he was not there.

At 1711, one of the two mechanics who had performed the condition inspection on the airplane received a call from the owner of 01NC who said that he had received a telephone call from the pilot's wife and that the pilot had not arrived at OAJ. The mechanic determined that the airplane was not at 01NC. After not finding the airplane around the area adjacent to the airport, the mechanic called 911. A search for the airplane by federal, state, and local authorities was initiated. About 2130, the wreckage of the airplane was discovered in a wooded area about 1.1 miles west of 01NC.

### PERSONNEL INFORMATION

According to Federal Aviation Administration (FAA) records, the pilot held a private pilot certificate with a rating for airplane single-engine land. His most recent FAA third-class medical certificate was issued on July 24, 2013. He reported on that date that he had accrued 1,850 total hours of flight experience.

### AIRCRAFT INFORMATION

The light-sport airplane was a single-engine, low-wing monoplane of conventional metal construction. It was equipped with a fixed-tricycle undercarriage with a castoring nose wheel, and was powered by a 100-horsepower, Rotax 912 ULS engine, driving a three-bladed Woodcomp ground-adjustable propeller.

The fuselage consisted of a semi-monocoque structure. The cockpit frame and canopy frame were constructed of carbon fiber. The canopy was made of Plexiglass. It was hinged at the front and was equipped with a sliding window on each side.

The fuselage also contained a ballistic recovery system (BRS) with a parachute to be deployed in case of emergency. The BRS consisted of a rocket-deploying container that was located just forward of the cockpit in the nose section of the fuselage. A cable ran from this container to an activation handle just to the right of the pilot's seat on the instrument panel. Once the activation handle had been pulled, the rocket would exit the fuselage and accelerate away from the airplane. After the parachute was completely extracted and exposed to the relative wind, it would begin to inflate, generating drag forces to decelerate the airplane. When the parachute had fully deployed, the airplane would descend at a rate of about 1,000 to 1,500 ft per minute.

According to FAA and maintenance records, the airplane was manufactured in 2010. Its most recent condition inspection was completed on the day of the accident. At the time of the inspection, the airplane had accrued 74.7 total hours of operation.

According to one of the two mechanics who performed the condition inspection, on June 19, 2015, the pilot flew the airplane to 01NC on a ferry permit. The ferry permit was required because the pilot had been sick and could not fly the airplane somewhere to have the condition inspection performed when it was due.

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On June 20, 2015, the two mechanics began the condition inspection. On that date, the pilot advised the mechanics that he had accidentally "put oil" into the coolant fill port on top of the engine because he thought the oil level was low. The mechanics flushed the cooling system and added new coolant. The mechanics also noticed that the bushings holding the radiator onto the engine were cracked and replaced them.

The pilot told the mechanics that the engine oil had been changed 23 hours earlier and that the oil should not be changed. The mechanics then discovered that the spark plugs needed cleaning, but, after advising the pilot of the cost of new spark plugs, the pilot had them install new plugs instead of cleaning the old ones.

According to the mechanic, on the day of the accident, as part of the inspection, the mechanics opened all the inspection panels on the airplane, closed them, and the airplane was returned to service about 1400. The mechanics then locked up the hangar and went home.

## METEOROLOGICAL INFORMATION

At 1556, the recorded weather at the New River Marine Corps Air Station (NCA), Jacksonville, North Carolina, located 16 nautical miles northeast of the accident site, included: wind 230° at 6 knots, 10 miles visibility, scattered clouds at 5,000 ft, temperature 34°C, dew point 22°C, and an altimeter setting of 29.94 inches of mercury.

## AIRPORT INFORMATION

01NC was an uncontrolled, privately-owned airport, located 2 miles southwest of Holly Ridge, North Carolina.

The field elevation was 65 ft above mean sea level. The airport had two runways oriented in a 18/36 and 3/21 configuration. Runway 21 was turf covered, in good condition, and measured 3,200 ft long and 75 ft wide.

## FLIGHT RECORDERS

The airplane was equipped with a Garmin GPSMAP 696 portable multifunction display that was mounted in a recess in the instrument panel. The unit consisted of a GPS receiver with a 7-inch diagonal high resolution liquid crystal display.

The unit could store data including, date, time, latitude, longitude, and altitude information for multiple flights in non-volatile memory (NVM).

Data recovered from the unit included track logs from June 5, 2011, through June 21, 2015. The last track log corresponded to the accident flight and contained data from 1525:57 to 1531:35.

According to the data, the airplane began its takeoff roll on runway 21 at 1530:19 and became airborne about 1530:38. The airplane continued to climb while turning to the west until about 1 minute after the takeoff, and, at 15:31:35, the airplane reached a GPS altitude of 309 ft and a derived groundspeed of 104 knots. This was the final recorded position.

## WRECKAGE AND IMPACT INFORMATION

Examination of the accident site revealed that the airplane struck trees in a steep, nose-low attitude, and the pilot was ejected from the cockpit. The airplane then fell nose first to the forest floor below, impacted in a 90° nose-down attitude, nosed over, and came to rest inverted.

Numerous areas of crush and compression damage to the fuselage and wings were noted, and there was evidence of fuel staining on the leading edges of the wings. There was no evidence of any inflight structural failure, inflight fire, or inflight explosion.

Examination of the cockpit canopy revealed that it was detached from its mounting location and was lying underneath the aft portion of the inverted fuselage. The majority of its clear bubble was broken into multiple pieces; however, the pieces were not scattered around the accident site but were collocated with the canopy frame. One of the canopy lift struts was missing and was not recovered. The damage patterns observed on the canopy frame and cockpit sill did not

match and could not be correlated with each other. The canopy latching mechanism hooks were found to be partially retracted, the canopy locking mechanism and activation handle were in the "OPEN" position, and the slots in the canopy frame that the hooks engaged when the canopy was closed and locked showed no evidence of tear-out.

Both wing fuel tank caps were closed, both wing locker doors were closed and secured, all the inspection panels were closed and secured, and the pitot tube was clear and free of debris. The wing flaps were in the up position, and flight control continuity was established from the ailerons, elevator, and rudder to the control stick and rudder pedals in the cockpit. The aileron, elevator, and rudder trims, were about neutral.

The pilot's four-point harness was intact and attached to its attachment fittings; however, the center buckle assembly was unlatched. The emergency locator transmitter had not been armed, and the ballistic recovery system activation handle safety pin with its "REMOVE BEFORE FLIGHT" flag was still in place.

The master switch, strobes switch, landing light switch, and electric fuel pump switch were all in the on position. The magneto switch was in the both position; the throttle was in the full throttle position; and the choke lever was in the off position. The fuel selector was in the right tank position. The carburetor heat control was in the off position.

Examination of the propeller speed reduction unit (PSRU) revealed that it was impact damaged, and the case had been breached. Examination of the propeller, the PSRU propeller gear assembly, and the PSRU overload clutch, revealed evidence of rotation. Smearing was evident on the metal faces of the overload clutch. The propeller drive shaft was also sheared, displayed a 45° conical break at the shear face, and showed evidence of torsional rotation.

Examination of the engine revealed that it was impact damaged; both carburetors had separated from their mounting locations, and the float bowls had separated from the carburetors. Portions of the air intake system, exhaust system, and the ignition harnesses had separated from their mounting positions.

## MEDICAL AND PATHOLOGICAL INFORMATION

The pilot was an 89-year-old male, who, as of his last FAA medical exam, was 68 inches tall and weighed 187 pounds. The pilot had first applied for a medical certificate in 2004 and reported to the FAA a medical history that included coronary artery disease treated with a stent in 2002 and coronary artery bypass grafting in 2004. In addition, he had hypertension and a history of a period of atrial fibrillation. After additional detailed information was reviewed, the pilot received a special issuance third-class medical certificate in 2005 with the limitation that it was valid for 1 year.

The pilot continued to renew his special issuance medical certificate annually, providing detailed information requested by the FAA. He developed recurrent atrial fibrillation in 2008 when an atrial clot was also diagnosed. He was treated with rate control medication and blood thinners. With a few periods of being deferred because he needed to get better control of his rate or degree of blood thinning, the pilot generally continued to receive special issuance third-class medical certificates. At the time of his last exam, he reported using warfarin (a blood thinner), diltiazem (a blood pressure medicine also used to control the heart rate in patients with atrial fibrillation), and febuxostat (a medication to prevent attacks of gout) and received a special issuance third-class medical certificate limited by a requirement for corrective lenses and marked, "not valid for any class after 07/31/2014." At the time of the accident, the pilot was flying an airplane that met the definition of a light sport aircraft; thus, he was required only to hold a valid driver's license.

According to the autopsy performed by the Brody School of Medicine at East Carolina University, Division of Forensic Pathology, the pilot's cause of death was multiple extreme injuries due to aircraft crash, and the manner of death was accident. The evaluation of natural disease was limited. The heart was described as "mildly enlarged" and weighed 430 grams (average for a 185-pound man is 358 grams with a range of 271-473 grams). The coronary arteries were significantly narrowed by atherosclerotic plaques including 80% stenosis of the left main and left anterior descending, 90% stenosis of the first diagonal, 70% stenosis of the circumflex, and 30% of the right coronary, which was fed by a patent coronary artery bypass graft. The septum was 1.5 centimeters thick (average is 1.3 centimeters). Microscopic evaluation of heart tissue demonstrated mild interstitial fibrosis.

The FAA's Bioaeronautical Research Laboratory, Oklahoma City, Oklahoma, performed toxicology testing, but it and was limited by the absence of available blood. The evaluation for volatiles identified 79 mg/hg of ethanol in muscle and 19 mg/hg in liver as well as N-butanol and N-propanol in muscle. Ethanol may be ingested in beer, wine, and liquor but may also be produced by microbial action after death. The alcohols N-butanol and N-propanol are only produced by microbial action after death. In addition, atenolol, verapamil, its metabolite norverapamil, and warfarin were detected in liver, and verapamil and warfarin were detected in muscle. Atenolol and verapamil are prescription medications used to treat hypertension and control the heart rate in atrial fibrillation. Warfarin is a

blood thinner used to prevent clot formation and resulting strokes in patients in atrial fibrillation. None of these medications are impairing.

## TESTS AND RESEARCH

The airplane manufacturer's published Pilot's Operating Handbook (POH) for the airplane stated that "Before engine starting," the canopy should be "clean, closed, and locked" and that the pilot should "tighten" the safety harness. The POH also stated that "Before takeoff," the cockpit canopy should be "closed and locked," recommended to "manually check by pushing the canopy upwards," and again stated to "tighten" the safety harness.

Review of Section 7 (Description of Airplane and Systems) in the POH revealed guidance regarding the canopy that stated, "make sure that the canopy is latched and mechanism is securely locked into position on both sides before operating the aircraft." Section 7 also provided guidance regarding the safety harness that stated, "adjust the buckle to a central position on the body."

Supplement 03 to the POH, issued September 2010, advised that, if a canopy inadvertently opened on an airplane, it would not be possible to close the canopy, but the airplane would be fully functional. The supplement indicated the following:

- During takeoff: the canopy would open about 2-inches.
- During climb and descent (with the airspeed at 60-75 knots): the canopy would stay open 2-3.2 inches.
- During horizontal flight (with airspeed at 60-80 knots): the canopy would stay open 2-3.2 inches.

The supplement advised that in all of the above-mentioned cases, there would be no flight problems, no vibrations, good aircraft control, and no change of flight characteristics. It recommended that, before takeoff, the pilot should "manually check the canopy is locked by pushing on the canopy upwards," and cautioned that, with the canopy open in flight, "do not perform any slipping."

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Accident Rpt# CEN17FA249	07/01/2017 1603 CDT	Regis# N62JN	Monticello, IA	Apt: Monticello Regional Airport MXO
Acft Mk/Mdl FLIGHT DESIGN GMBH CTSW-NO SERIES	Acft SN 06-01-09	Acft Dmg: SUBSTANTIAL	Rpt Status: Prelim	Prob Caus: Pending
Eng Mk/Mdl ROTAX 912 ULS2	Acft TT 664	Fatal 1	Ser Inj 0	Flt Conducted Under: FAR 091
Opr Name: MOONEY OF MONTICELLO, INC.	Opr dba:	Aircraft Fire: NONE		
AW Cert: LTSP				

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## Events

1. Landing - Loss of control in flight
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## Narrative

On July 1, 2017, about 1603 central daylight time, a Flight Design CTSW single-engine light sport airplane, N62JN, was substantially damaged when it impacted terrain while landing at Monticello Regional Airport (MXO), Monticello, Iowa. The commercial pilot was fatally injured, and his dog sustained minor injuries. The airplane was registered to Mooney of Monticello Inc. and operated by the pilot under the provisions of 14 Code of Federal Regulations (CFR) Part 91 without a flight plan. Day visual meteorological conditions prevailed for the local flight that departed MXO about 1515.

A witness, who was a pilot practicing takeoffs and landings on runway 27 at MXO, reported that the accident airplane had approached the airport from the east before entering a left downwind for runway 27. He observed the accident airplane on its final approach to runway 27; however, the witness lost visual contact with the airplane when he entered his base turn for runway 27. The witness reported that, when his airplane was established on final for runway 27, he did not see the accident airplane on the runway or taxiway so he performed a go-around. During the go-around he spotted the accident airplane in the cornfield adjacent to the runway.

At 1655, the MXO automated surface observing system reported: wind 280ø at 13 knots, few clouds at 5,500 feet above ground level (agl), 10 miles surface visibility; temperature 24øC; dew point 13øC; and an altimeter setting of 29.98 inches of mercury.



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Accident Rpt# WPR17FA139 07/01/2017 715 PDT Regis# N492XB Chelan, WA  
Acft Mk/Mdl NORTH WING UUM INC SPORT X2 912-NO Acft SN LS9014 Acft Dmg: DESTROYED Rpt Status: Prelim Prob Caus: Pending  
Fatal 2 Ser Inj 0 Flt Conducted Under: FAR 091  
Opr Name: Opr dba: Aircraft Fire: NONE

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## Events

2. Enroute-cruise - Loss of control in flight

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## Narrative

On July 1, 2017 about 0715 Pacific daylight time, a North Wing Sport, N492XB, was destroyed when it impacted mountainous terrain near Chelan, Washington. The pilot who was the registered owner of the airplane, and a pilot-rated passenger sustained fatal injuries. The flight was operated under the provisions of 14 Code of Federal Regulations (CFR) Part 91 as a personal flight. Visual meteorological conditions prevailed at the time of the accident, and no flight plan had been filed. The local flight originated from Lake Chelan Airport, Chelan, Washington, about 0630.

Later that day, an Alert Notice (ALNOT) was issued for the airplane after family members of the pilot became concerned when he did not arrive at his intended destination. On July 2, 2017, the airplane wreckage found by the sheriff's department on a hillside about 5 miles from departure airport.

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

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# National Transportation Safety Board - Aircraft Accident/Incident Database

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Accident Rpt# ERA17CA236	07/08/2017 1130 EDT	Regis# N796SR	Lake Ashby, FL	Apt: N/a
Acft Mk/Mdl PROGRESSIVE AERODYNE INC SEAREY	Acft SN 1060	Acft Dmg: SUBSTANTIAL	Rpt Status: Factual	Prob Caus: Pending
Eng Mk/Mdl ROTAX 914UL	Acft TT 20	Fatal 0	Ser Inj 1	Flt Conducted Under: FAR 091
Opr Name: CHRISTOPHER A CARLSON	Opr dba:		Aircraft Fire: NONE	AW Cert: LTSP

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## Events

1. Landing - Landing gear not configured
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## Narrative

The pilot of the special light sport amphibian airplane stated that he had planned a local personal sightseeing flight, which included departing from an airport, landing on a lake about 20 miles away, then returning to the departure airport. During the approach to landing on the lake, the pilot left the landing gear in the extended position, which was the wrong position for a water landing. Once the airplane touched down on water, it decelerated quickly, nosed over and came to rest inverted. The pilot added that there were no preimpact mechanical malfunctions with the airplane. When the airplane was recovered from the lake, substantial damage was observed on both wings and the fuselage. The landing gear was observed in the extended position and the landing gear selector was also in the landing gear extended position.

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Accident Rpt# GAA17CA397 07/07/2017 1515 EDT Regis# N253BC Ahsoskie, NC Apt: N/a  
Acft Mk/Mdl RAINBOW SKY REACH (PTY) LTD Acft SN CH143B Acft Dmg: SUBSTANTIAL Rpt Status: Prelim Prob Caus: Pending  
Fatal 0 Ser Inj 0 Flt Conducted Under: FAR 091  
Opr Name: OVERWATCH TOOLS LLC. Opr dba: Aircraft Fire: NONE

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Accident Rpt# CEN15LA355	08/07/2015 1140 CDT	Regis# N65XT	Granbury, TX	Apt: N/a
Acft Mk/Mdl WORLD AIRCRAFT CO SPIRIT		Acft SN AA041115041	Acft Dmg: SUBSTANTIAL	Rpt Status: Factual Prob Caus: Pending
Eng Mk/Mdl ROTAX 912ULS		Acft TT 145	Fatal 0 Ser Inj 0	Flt Conducted Under: FAR 091
Opr Name: PILOT		Opr dba:		Aircraft Fire: NONE
				AW Cert: LTSP

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## Events

1. Maneuvering - Fuel starvation
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## Narrative

On August 7, 2015, at 1140 central daylight time, a World Aircraft Company Spirit, N65XT, impacted a fence and terrain during a forced landing to a field near Granbury, Texas. The airplane experienced a total loss of engine power after a series of circling left turns. The airplane sustained substantial damage. The private pilot and a passenger were uninjured. The airplane was registered to and operated by the pilot under 14 Code of Federal Regulations Part 91 as a personal flight that was not operating on a flight plan. Visual meteorological conditions prevailed at the time of the accident. The flight originated from Kickapoo Downtown Airport (CWC), Wichita Falls, Texas, at 1030 and was destined to Pecan Plantation Airport (OTX1), Granbury, Texas.

The pilot stated that when the airplane was about 4 miles from the destination airport, he began to make left turns to allow an inbound Piper airplane that was in the area to approach and land at the airport. As the pilot returned to an inbound course from the left turns, the engine "sputtered and shook" and the pilot made an immediate left turn from above an area that was forest to an area that was pasture. The engine then "sputtered and stopped." The pilot stated that he pushed the throttle control to the full open position, "hit the ignition," and the engine restarted. The engine ran "smoothly," and the pilot returned the airplane back onto course to OTX1. The pilot made a radio transmission reporting a rough running engine and "moments later" the engine "shuddered" but was still running. The pilot then made a left turn to an "open" area of terrain and the engine "sputtered and stopped." The pilot then performed a forced landing to a field. The touch down on the field was "smooth but fast" and during the rollout the pilot saw for the first time a barbed wire fence in the direction of the rollout. The pilot was unable to slow the airplane with full application of wheel brakes due to foot-tall grass and cactus, which were "like stopping on wet grass."

The pilot stated that his safety recommendation was: "Always be sure to turn on the fuel pump when the engine runs rough or stops."

The wreckage was initially recovered and moved to Air Salvage of Dallas, Lancaster, Texas but was later moved to World Aircraft Company, Paris, Tennessee where an examination of the wreckage could be performed. The examination was performed under the supervisor of a Federal Aviation Administration Aviation Safety Inspector, Airworthiness from the Memphis Flight Standards District Office. The World Aircraft Company party representative indicated that there are two one-way fuel valves in the system located at the wing root (attach points). One is on a 5/16-inch line, and the other is 3/8-inch line. They were designed to allow fuel flow in one-direction to preclude the fuel venting on the ramp. Following the circumstances of the accident, continual banking in circle, World Aircraft Company modified the system by replacing the smaller of the two valves with a union in its place. This will allow the fuel to flow back into the tank, thus enabling the ability to equalize fuel distribution.

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Accident Rpt# ERA17LA217	06/26/2017 1400 EDT	Regis# N865HB	Blairsville, GA	Apt: Blairsville DZJ
Acft Mk/Mdl BARNES RICHARD B/HOWE MICHAEL	Acft SN 40093	Acft Dmg: SUBSTANTIAL	Rpt Status: Prelim	Prob Caus: Pending
Eng Mk/Mdl LYCOMING XIO-540D4A5	Acft TT 480	Fatal 0 Ser Inj 0	Flt Conducted Under: FAR 091	
Opr Name: VANS RV 10 N865HB LLC	Opr dba:	Aircraft Fire: NONE		AW Cert: SPE

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## Events

1. Takeoff-rejected takeoff - Loss of control on ground
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## Narrative

On June 26, 2017, at 1400 eastern daylight time, an experimental amateur-built Vans RV-10, N865HB, was substantially damaged during a runway excursion after landing at Blairsville Airport (DZL), Blairsville, Georgia. The airline transport pilot and a passenger were not injured. Visual meteorological conditions prevailed, and no flight plan was filed for the personal flight, which departed Lumpkin County-Wimpys Airport (9A0), Dahlonega, Georgia about 1345 and was conducted under the provisions of 14 Code of Federal Regulations Part 91.

According to the pilot, he completed a landing to runway 26, retracted the flaps, and applied takeoff power to complete a touch-and-go landing. The nose turned to the right, the pilot corrected with a left rudder application, but the airplane continued to the right. The pilot reduced engine power, aborted the takeoff, and applied left braking but the airplane continued to the right, departed the runway, and travelled through a "depression" before coming to rest. As the main landing gear dropped into the depression, the tail section struck the ground which substantially damaged the tail structure.

The pilot held airline transport, flight engineer, flight instructor, and private pilot certificates with ratings for airplane single engine, multiengine, and rotorcraft helicopter. His most recent Federal Aviation Administration (FAA) first-class medical certificate was issued May 9, 2017. He reported 21,000 total hours of flight experience of which 100 hours was in the accident airplane make and model.

The four-place, low-wing airplane was manufactured in 2010 and powered by a Lycoming XIO-540D4A5, 260-hp engine. The most recent condition inspection was completed on April 7, 2017 and the airplane had accrued 365 total aircraft hours.

The airplane was configured with a castering nose landing gear and steering was accomplished by asymmetrical braking.

At 1400, the weather recorded at Western Carolina Regional Airport (RHP) at 1,696 feet elevation, 21 miles north of DZL, included clear skies, wind from 030ø at 3 knots, and visibility 10 statute miles. The temperature was 25øC, and the dew point was 13øC. The altimeter setting was 30.18 inches of mercury.

The airplane was examined at the scene by an FAA aviation safety inspector. Examination revealed that the rudder and the tail structure just forward of the rudder were substantially damaged. The right main landing gear wheel pant was removed, and examination revealed that the tire and the innertube had each rotated independently of each other on the rim, and that the innertube valve stem was severed.

The pilot reported no deficiencies with the handling and performance of the airplane. The only mechanical malfunction/failure cited by the pilot was, "Right main tire lost all pressure."

# National Transportation Safety Board - Aircraft Accident/Incident Database

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

## Events

1. Enroute - Aircraft structural failure

## Narrative

### HISTORY OF FLIGHT

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

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

### PERSONNEL INFORMATION

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

### AIRCRAFT INFORMATION

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

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

### METEOROLOGICAL INFORMATION

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

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

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# National Transportation Safety Board - Aircraft Accident/Incident Database

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

## WRECKAGE AND IMPACT INFORMATION

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

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

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

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

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

## MEDICAL AND PATHOLOGICAL INFORMATION

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

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

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

## TESTS AND RESEARCH

### Structures Examination

A postaccident examination of the inboard and outboard wing sections at the fracture location revealed that the fracture exhibited damage and deformation consistent with the separation of the outboard portion of the wing in a downward direction. The horizontal stabilizer forward spar fractured about 2 inches

outboard of the side of the fuselage on both sides. Both of the horizontal stabilizer spar caps were deformed down and aft at the fracture location. The elevators were deformed down and aft matching the spar deformation.

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

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

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

## Electronic Devices

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

## Radar Data:

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

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

## Weight and Balance

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



# National Transportation Safety Board - Aircraft Accident/Incident Database

Accident Rpt# CEN17FA075 01/12/2017 1100 CST Regis# N94RG Era, TX Apt: N/a  
Acft Mk/Mdl FIELDS STEEN SKYBOLT Acft SN 001 Acft Dmg: SUBSTANTIAL Rpt Status: Factual Prob Caus: Pending  
Eng Mk/Mdl LYCOMING IO-540-B1A5 Fatal 1 Ser Inj 0 Flt Conducted Under: FAR 091  
Opr Name: TYLER FOSTER Opr dba: Aircraft Fire: NONE  
AW Cert: SPE

## Summary

A witness reported that he was outside his house when he heard an airplane "flying aerobatics." He said that he heard the airplane conduct two to three passes and that he could hear the engine "cycling under load as they do in airshows." He then went to the other side of the house, at which point he saw the airplane in a hammerhead climb (climbing straight up); the airplane then entered a slow, spiraling descent straight down, during which he did not hear engine noise. The airplane made about four spirals before it went out of sight behind rising terrain. The witness added that it did not appear that any attempt was made to recover from the descent. He was uncertain about what altitude the airplane was at when it was at the top of the hammerhead maneuver. The airplane wreckage was found less than 1/4 mile from the pilot's private grass airstrip. The examination of the wreckage revealed no preimpact mechanical malfunctions or failures that would have precluded normal operation. Given the witness statement, it is likely that the pilot lost airplane control while conducting aerobatic flight maneuvers and that there was insufficient altitude to recover.

## Cause Narrative

THE NATIONAL TRANSPORTATION SAFETY BOARD DETERMINED THAT THE CAUSE OF THIS OCCURRENCE WAS: The pilot's loss of airplane control while conducting aerobatic flight maneuvers with insufficient altitude to recover.

## Events

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

## Findings - Cause/Factor

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

## Narrative

### HISTORY OF FLIGHT

On January 12, 2017, between 1100 and 1200 central standard time, an experimental, amateur-built Steen Skybolt airplane, N94RG, collided with terrain after a loss of control near Era, Texas. The pilot was fatally injured, and the airplane sustained substantial damage. The airplane was owned and being operated by the pilot as a 14 Code of Federal Regulations Part 91 personal flight. Visual meteorological conditions existed near the accident site at the time of the flight, and a flight plan had not been filed. The flight departed from the pilot's private grass airstrip, located less than 1/2 mile from the accident site, between 1100 and 1200.

A witness reported that he was outside his house when he heard an airplane "flying aerobatics." He said that he heard the airplane conduct two to three passes and that he could hear the engine "cycling under load as they do in airshows." He then went to the other side of the house, at which point he saw the airplane in a hammerhead climb (climbing straight up); the airplane then entered a slow, spiraling descent straight down, during which the witness did not hear engine noise. Although he was certain the airplane was spiraling down and not in a flat spin, he was less certain if it was in a right or left spiral. The airplane made about four spirals before it went out of sight behind rising terrain. He added that it did not appear that any attempt was made to recover from the descent. He was uncertain about what altitude the airplane was at when it was at the top of the hammerhead maneuver. He said he saw the airplane sometime between 1100 and 1200 and that the temperature outside was very warm and the sky was "incredibly" clear.

### PERSONNEL INFORMATION

The pilot held an airline transport pilot certificate with multiengine and single-engine airplane ratings; single-engine operations were limited to commercial privileges. He was issued a Federal Aviation Administration first-class medical certificate on March 29, 2016. At the time of his medical examination, the pilot reported a total of 2,250 hours of civil flight experience. The number of hours the pilot flew in the accident airplane could not be determined.

### AIRCRAFT INFORMATION

The experimental, amateur-built, open-cockpit biplane was manufactured in 1990. The airplane was equipped with a six-cylinder Lycoming IO-540-B1A5

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# National Transportation Safety Board - Aircraft Accident/Incident Database

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engine, serial number L-634-48, that produced 290 horsepower at 2,575 rpm.

Although the airplane was purchased by the pilot around September 2016, the airplane's registration still indicated that it was registered to the previous owner. The airplane was kept in a hangar and operated out of the accident pilot's private grass airstrip near Era, Texas.

## METEOROLOGICAL INFORMATION

At 1053, the surface weather observation at Denton Enterprise Airport (DTO), Denton, Texas, located 20 nautical miles south of the accident site, was wind from 190° at 9 knots; visibility 10 miles; cloud condition 4,000 ft broken; temperature 22°C; dew point 17°C; and altimeter setting 30.10 inches of mercury (inHg).

At 1153, the DTO surface weather observation was wind from 220° at 10 knots; visibility 10 miles; cloud condition 2,600 ft broken; 4,500 ft overcast; temperature 22°C; dew point 16°C; altimeter setting 30.09 inHg.

At 1235, the DTO surface weather observation was wind from 341° at 14 knots; visibility 10 miles; cloud condition 2,400 ft broken; 3,300 ft broken; 4,700 ft overcast; temperature 15°C; dew point 8°C; altimeter setting 30.09 inHg. Remarks: wind shift at 1215.

## WRECKAGE AND IMPACT INFORMATION

The wreckage was located in a pasture about 1,100 ft from the departure end of the north runway of the pilot's grass airstrip on a magnetic heading of 350°. The damage to the engine cowling, cockpit, and wing surfaces indicated that the airplane collided with terrain in about a 45°-nose-down attitude. The engine compartment, fuselage, wings, and empennage exhibited crushing and buckling from the ground impact, but the airplane remained intact. There was no postimpact fire. Flight control continuity was confirmed from all flight control surfaces to their respective cockpit controls. The elevator trim continuity was confirmed from the elevator trim control to the elevator trim tabs.

One of the propeller blades was visible at the accident site, and it was bent backward about midspan, and it exhibited minimal damage on its chambered surface and flat side. Its blade tip exhibited abrasion and nicks along the leading edge of the blade. The propeller hub was found in 14 inches of soft, clay soil. The second blade was found underneath the wreckage in clay soil, and it exhibited twisting, extensive chordwise scratching along the entire span of the blade, and gouges and nicks to the blade's leading edge.

The examination of the engine revealed drive train continuity of the crankshaft and camshaft when the propeller was turned. The accessory gears and the fuel pump gear rotated, and all six pistons moved up and down. The top spark plugs exhibited normal signatures and appeared to be almost new. Both the left and right magnetos were separated from the engine. The left magneto produced spark on all six towers. The right magneto was damaged from impact, and it produced no spark. The fuel servo was broken at the throttle plate. The fuel servo had residual fuel in it, and all fuel lines connected to the fuel servo had fuel in them.

The engine rpm gauge indicated 2,450 rpm with 407.86 hours recorded. The airspeed indicator needle was found at 338 knots. The airplane's g-meter needle moved freely, but the g-meter indicators that recorded acceleration showed +10 and -5 gs. The engine rpm gauge, airspeed indicator, and g-meter were sent to the National Transportation Safety Board's (NTSB) Materials Laboratory for examination.

## MEDICAL AND PATHOLOGICAL INFORMATION

The Dallas County Institute of Forensic Sciences, Dallas, Texas, performed an autopsy of the pilot. The cause of death was "blunt force trauma," and the manner of death was "an accident."

The FAA's Bioaeronautical Sciences Research Laboratory conducted toxicology testing on specimens for the pilot. The testing was negative for all tested substances.

## TESTS AND RESEARCH

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# National Transportation Safety Board - Aircraft Accident/Incident Database

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The NTSB's Materials Laboratory examined the engine rpm gauge, airspeed indicator, and g-meter. The rpm gauge and airspeed indicator were disassembled and examined using a stereo microscope. No slap or impact marks were observed on the gauge or indicator dial faces.

The rear housing of the g-meter was removed for operational examination. No impact marks were observed on its outer case (housing). With the housing removed, no damage was observed on the meter's internal mechanical parts. The gears, weights, and other mechanical parts moved freely. When the reset button was pressed, the meter's dial needles (g-force indicators) reset to their respective original positions. The g-meter appeared to be operational.

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# National Transportation Safety Board - Aircraft Accident/Incident Database

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Accident Rpt# GAA17CA407 07/12/2017 1320 UTC Regis# N116GD Los Lunas, NM Apt: Mid Valley Airpark E98  
Acft Mk/Mdl GERALD DONOVAN RANS S-16 Acft SN 0101027 Acft Dmg: SUBSTANTIAL Rpt Status: Prelim Prob Caus: Pending  
Fatal 0 Ser Inj 0 Flt Conducted Under: FAR 091  
Opr Name: GERALD DONOVAN Opr dba: Aircraft Fire: NONE

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# National Transportation Safety Board - Aircraft Accident/Incident Database

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Accident Rpt# GAA17CA324	05/28/2017 1500 EDT	Regis# N272SS	Boca Raton, FL	Apt: Boca Raton BCT
Acft Mk/Mdl JESS LLC JUST AIRCRAFT SUPERS	Acft SN JA274-09-12	Acft Dmg: SUBSTANTIAL	Rpt Status: Factual Prob Caus: Pending	
Eng Mk/Mdl ROTAX 912ULS	Acft TT 685	Fatal 0 Ser Inj 0	Flt Conducted Under: FAR 091	
Opr Name: NEW BOCA LEASING LLC	Opr dba:	Aircraft Fire: NONE		AW Cert: SPE

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## Events

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

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## Narrative

The pilot of a tailwheel-equipped airplane reported that during the landing roll, the airplane veered to the left. He added that he applied brakes, but the airplane continued to the left. Subsequently, the airplane ground looped to the left, the right main landing gear collapsed, and the right wing impacted the ground.

The airplane sustained substantial damage to the right wing.

The pilot reported that the winds were light and variable.

# National Transportation Safety Board - Aircraft Accident/Incident Database

Accident Rpt# CEN15FA426 09/26/2015 1222 CDT Regis# N401 Ama, LA Apt: St Charles LS40  
Acft Mk/Mdl JONES RALPH D ZODIAC CH 601 HD Acft SN 6-3106 Acft Dmg: SUBSTANTIAL Rpt Status: Factual Prob Caus: Pending  
Eng Mk/Mdl LYCOMING O-235-C1 Acft TT 1387 Fatal 1 Ser Inj 0 Flt Conducted Under: FAR 091  
Opr Name: GUY J SEGHERS III Opr dba: Aircraft Fire: NONE  
AW Cert: SPE

## Summary

The private pilot was conducting a local flight in the experimental, amateur-built airplane. GPS data indicated that, during the takeoff roll, the airplane had a maximum groundspeed of 84 knots. The groundspeed varied between 45 and 96 knots as the airplane turned to a southwesterly heading after departure. About 1 minute 18 seconds after takeoff, the airplane made a right turn toward the northwest. The last recorded data point showed the airplane at an altitude of 66 ft and a groundspeed of 15 knots. When the airplane failed to return to the airport, a search was initiated. The wreckage was found the next day. The airplane impacted terrain in a thickly wooded area in an 80°-nose-down attitude. The airplane's nose section was skewed to the right, the right wing was leading, the left wing was trailing, and the empennage was bent down to the left, consistent with the airplane being in a left spin following an aerodynamic stall.

Examination of the propeller assembly revealed indications of little or no rotation at impact. An engine examination revealed no mechanical malfunctions or failures that would have precluded normal operation. The weather conditions were conducive to serious icing at glide power, but the airplane was operating at takeoff power. Therefore, it cannot be said with certainty that the carburetor accumulated ice and caused a loss of engine power. Based on the GPS data and wreckage examination, it is likely that the pilot failed to maintain adequate airspeed and exceeded the airplane's critical angle of attack following a loss of engine power for reasons that could not be determined based on available evidence, which resulted in an aerodynamic stall and subsequent left spin.

The pilot's autopsy identified significant coronary artery stenosis and evidence of a previous heart attack. The pilot's previous heart attack and significant coronary artery stenosis placed him at risk for an acute cardiac event such as an arrhythmia or ischemia that would have caused chest pain, shortness of breath, palpitations, or fainting. If such an event occurred, the acuteness of the accident would have precluded identifying evidence of it at autopsy. Although acute incapacitation could have occurred, this investigation was unable to determine whether the pilot's cardiovascular disease contributed to the accident. Additionally, the evidence of a loss of engine power does not support a medically incapacitating event.

## Cause Narrative

THE NATIONAL TRANSPORTATION SAFETY BOARD DETERMINED THAT THE CAUSE OF THIS OCCURRENCE WAS: The pilot's failure to maintain adequate airspeed and his exceedance of the airplane's critical angle of attack following a loss of engine power for reasons that could not be determined based on available evidence, which resulted in an aerodynamic stall and left spin.

## Events

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

## Findings - Cause/Factor

1. Not determined-Not determined-(general)-(general)-Unknown/Not determined - C
2. Aircraft-Aircraft oper/perf/capability-Performance/control parameters-Airspeed-Not attained/maintained - C
3. Personnel issues-Task performance-Use of equip/info-Aircraft control-Pilot - C
4. Aircraft-Aircraft oper/perf/capability-Performance/control parameters-Angle of attack-Capability exceeded - C
5. Personnel issues-Physical-Health/Fitness-Predisposing condition-Pilot
6. Environmental issues-Conditions/weather/phenomena-Temp/humidity/pressure-Conducive to carburetor icing-Effect on equipment

## Narrative

### HISTORY OF FLIGHT

On September 26, 2015, at 1222 central daylight time, an amateur-built Zodiac CH 601 HD airplane, N401, impacted terrain near St. Charles Airport (LS40), Ama, Louisiana. The pilot was fatally injured, and the airplane was substantially damaged. The airplane was registered to Buffalo RD, LLC, and was operated by the pilot 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 no flight plan had been filed. The local flight originated from LS40 at 1221.

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# National Transportation Safety Board - Aircraft Accident/Incident Database

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According to GPS data downloaded from a Garmin Aera 500 GPS located in the wreckage, the airplane began its takeoff roll on runway 17 at LS40 at 1221:18. The maximum groundspeed during the takeoff roll was 84 knots. After takeoff, the groundspeed varied between 45 and 96 knots as the airplane turned to a southwesterly heading. At 1222:32, the airplane made a right turn toward the northwest. At 1222:37, the last recorded data point, the airplane was at 66 ft GPS altitude at a groundspeed of 15 knots. LS40 field elevation is 13 ft. When the airplane failed to return to the airport, a search was initiated. The wreckage was found the next day about 1300.

## PERSONNEL INFORMATION

The pilot held a private pilot certificate with airplane single-engine land and gyroplane ratings. He held a Federal Aviation Administration third-class airman medical certificate, dated December 1, 2014, which contained the restriction, "must wear corrective lenses." The pilot's flight logbook was not located. The pilot did not report his flight time on his most recent application for his medical certificate; however, on a 1987 application for a medical certificate, the pilot reported he had logged an estimated 170 total flight hours.

## AIRCRAFT INFORMATION

Zodiac Aircraft manufactured the airplane, serial number 6-3106, in kit form, and it was assembled in 2002. It was powered by a 65-horsepower Lycoming O-235-C1 engine, serial number 5544-15, and was equipped with a Warp Drive 3-bladed, fixed-pitch composite propeller. The propeller had been trimmed from 72 to 70.5 inches to increase static rpm to 2,750.

Maintenance records indicated that the airframe's last conditional inspection was completed on June 9, 2015, at a tachometer time of 1,384.9 hours. At the accident site, the tachometer read 1,387.5 hours.

The engine received a field overhaul on January 18, 1965, and was installed in the airplane on May 22, 2012. At the time of the accident it had accrued 227.73 total hours and 72.77 hours since the overhaul. The engine's last 100-hour inspection was completed on June 9, 2015, at a tachometer time of 1,384.9 hours.

## METEOROLOGICAL INFORMATION

The closest official weather reporting station was at Louis Armstrong New Orleans International Airport (MSY), New Orleans, Louisiana, about 3 miles northeast from the accident location. At 1153, the MSY Automated Surface Observing System reported wind from 030 $\emptyset$  at 9 knots; visibility 10 miles; few clouds at 3,000 ft; ceiling 12,000 ft broken, 20,000 ft overcast; temperature 27 $\emptyset$ C, dew point 21 $\emptyset$ C; and an altimeter setting 29.97 inches of mercury.

A review of the Carburetor Icing Probability Chart indicated the temperature and dew point about the time of the accident near the accident site were conducive to "serious icing at descent power."

## WRECKAGE AND IMPACT INFORMATION

The airplane wreckage was found in a thickly wooded area less than .25 miles southwest of the departure end of runway 17 at LS40. Tree branches directly above the wreckage were broken, and the airplane struck the ground in about an 80 $\emptyset$ -nose-down attitude, as evidenced by damage to the wreckage and broken tree branches. The engine was skewed to the right with the right wing leading and the left wing trailing. The empennage was bent down to the left. The three-blade composite propeller remained attached to the engine. Two blades were intact. The third blade was broken off and located near the engine. All major airplane components and flight control surfaces were accounted for at the accident site.

## MEDICAL AND PATHOLOGICAL INFORMATION

The St. Charles Parish Coroner's Office, Luling, Louisiana, conducted an autopsy of the pilot. According to the autopsy report, the pilot's cause of death was "multiple blunt force injuries, atherosclerotic cardiovascular disease". The autopsy identified 60% narrowing of the left anterior descending coronary artery, a transmural infarct (scar from an old heart attack) in the left ventricle, and no obvious recent infarcts (damage).

The FAA's Bioaeronautical Sciences Research Laboratory conducted toxicology testing on specimens from the pilot. Results were negative for all substances

tested for.

## TESTS AND RESEARCH

### Emergency Locator Transmitter.

An Ameri-King Corporation AK-450 Emergency Locator Transmitter (ELT), S/N 499-664, was recovered from the wreckage and examined for functionality. The ELT was designed to transmit an emergency signal on 121.5/243 Mhz when activated. The recovered ELT passed all functional test during the examination and no anomalies were noted. Cospas-Sarsat Satellite monitoring for 121.5/243 Mhz was terminated in 2009. As such, ELTs broadcasting on 121.5/243 Mhz rely on reception by nearby aircraft or search and rescue personnel.

### Engine and Airframe Examination.

The engine was rotated by turning the propeller. Continuity was confirmed from the crankshaft to the rear gears and to the valve train. Compression and suction were observed from all four cylinders. The interiors of the cylinders were examined using a lighted borescope and no anomalies were noted.

A review of copies of airframe and engine logbooks revealed the engine was last overhauled on 01/18/1965. It was installed on the accident aircraft on the accident aircraft on 05/22/2012 with 72.77 hours since that overhaul and had accumulated a total of 227.73 hours time in service and more that 50 calendar years since overhaul at the time of the accident.

The engine was equipped with a Warp Drive 3-blade composite propeller, S/N T7872. The propeller spinner was fragmented. The propeller and two propeller blades remained attached to the crankshaft flange. The remaining propeller blade was separated from the hub at the blade root.

The carburetor air box was impact damaged and the position of the carburetor heat valve undetermined. The carburetor heat knob in the cockpit was in a full forward position. The carburetor remained attached to the engine. The throttle and mixture control cables were impact damaged. The throttle cable remained attached to the carburetor throttle control arm and the arm was observed in a full throttle position. There were two controls labeled "throttle" in the cockpit. The left control was over extended aft. The right control was full forward. The mixture control cable remained attached to the carburetor mixture control arm. The arm was observed in a full lean position. The cockpit mixture control knob was fully forward.

The carburetor was removed and partially disassembled. No damage was noted to the carburetor internal components. A few drops of liquid were observed in the carburetor fuel bowl. The liquid had an odor consistent with aviation fuel. A check of the liquid with water finding paste was negative for water. The carburetor fuel inlet screen was unobstructed. The aircraft fuel strainer/gascolator bowl was separated and found among the wreckage. The fuel screen was not observed.

The aircraft fuselage fuel tank was partially crushed and empty. The tank on/off valve and screen assembly was removed. Debris was observed on the outer surface of the screen. A hole was observed in the screen mesh. A fuel vent tube was observed in the upper corner of the fuel tank. No hose was attached to the tube and a bolt was observed driven into the tube, obstructing the opening. The fuel tank cap appeared to be an automotive type "screw on" oil cap drilled for a float and rod type fuel level indicator. The float was observed about « full of liquid. The liquid from the float was not examined.

The left magneto was impact separated from the engine. The right magneto mounting flange was fractured and it remained partially attached to the engine. Both magnetos produced spark from all ignition towers when rotated by hand.

The starter was impact fractured and separated from the engine. The alternator remained attached to the engine and no damage was noted. The alternator belt remained in place. Oil was observed in the engine. No debris was observed in the engine oil screen.

No mechanical malfunctions or failures were noted with the engine or airframe that would have precluded normal operation.

## ADDITIONAL INFORMATION

Lycoming Engines Service Instruction 1009AW states the following:



Engine deterioration in the form of corrosion (rust) and the drying out and hardening of composition materials such as gaskets, seals, flexible hoses and fuel pump diaphragms can occur if an engine is out of service for an extended period of time. Due to the loss of a protective oil film after an extended period of inactivity, abnormal wear on soft metal bearing surfaces can occur during engine start. Therefore, all engines that do not accumulate the hourly period of TBO [time between overhaul] specified in this publication are recommended to be overhauled in the twelfth year.

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# National Transportation Safety Board - Aircraft Accident/Incident Database

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Accident Rpt# WPR17FA134	06/27/2017 850 MST	Regis# N731RV	Arlington, AZ		
Acft Mk/Mdl JORDAN JOHN RV7-UNDESIGNAT		Acft SN 70083	Acft Dmg: DESTROYED	Rpt Status: Prelim	Prob Caus: Pending
			Fatal 2	Ser Inj 0	Flt Conducted Under: FAR 091
Opr Name:		Opr dba:			Aircraft Fire: NONE

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## Events

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

On June 27, 2017 about 0850 Mountain standard time, a Vans RV-7, N731RV, was destroyed when it impacted mountainous terrain near Arlington, Arizona. The pilot who was the registered owner of the airplane, and a pilot-rated passenger sustained fatal injuries. The flight was operated under the provisions of 14 Code of Federal Regulations (CFR) Part 91, as a personal flight. Visual meteorological conditions prevailed at the time of the accident, and no flight plan had been filed. The local flight originated from Buckeye Municipal Airport, Buckeye, Arizona about 0835.

On June 27, 2017, at 1316, an Alert Notice (ALNOT) was issued for the airplane after family members of the pilot became concerned when he did not arrive at his intended destination. At 1810, the airplane wreckage was found by the sheriff's department in the Gila Mountains.

There were no reported witnesses to the accident.

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

# National Transportation Safety Board - Aircraft Accident/Incident Database

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Accident Rpt# ERA17LA233	07/02/2017 1325 EDT	Regis# N650LN	Dover, PA	Apt: Lazy B Ranch 0P8
Acft Mk/Mdl LAWRENCE O NOLTE ZODIAC		Acft SN 65-8990	Acft Dmg: SUBSTANTIAL	Rpt Status: Prelim Prob Caus: Pending
Eng Mk/Mdl CONTINENTAL MOTORS INC O-200	Acft TT 1	Fatal 0	Ser Inj 0	Flt Conducted Under: FAR 091
Opr Name: NOLTE LAWRENCE O	Opr dba:			Aircraft Fire: NONE
				AW Cert: SPX

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## Events

2. Landing-landing roll - Runway excursion

## Narrative

On July 2, 2017, about 1325 eastern daylight time, an experimental amateur-built Zodiac CH650B, N650LN, was substantially damaged during landing at Lazy B Ranch Airport (0P8), Dover, Pennsylvania. The private pilot was not injured. The airplane was registered to and operated by the pilot as a 14 Code of Federal Regulations Part 91 test flight. Visual meteorological conditions prevailed at the time of the accident, and no flight plan was filed for the local flight.

According to the pilot, the accident flight was the first flight of the Phase 1 test period for the experimental airplane. During the flight, while on the crosswind leg of the airport traffic pattern for runway 5, the engine lost total power and the pilot noted that there was no fuel pressure indication or electrical system charge. He attempted to restart the engine with the secondary fuel pump, however, the engine would not start. He maneuvered the airplane to land on runway 5 and stated that the airplane touched down longer and faster than "normal due to a no flap condition." The airplane overran the runway, impacted a fence, and came to rest on its nose.

According to a Federal Aviation Administration (FAA) inspector who examined the airplane, the firewall and engine mounts were substantially damaged.

According to FAA records, the airplane was issued an experimental airworthiness certificate on December 16, 2016. The two-seat, low wing, monoplane was equipped with a Continental Motors Inc. O-200 series, 100 hp, engine. According to the airframe maintenance logbook, the most recent condition inspection was performed on June 17, 2017, at a total time of 0 hours. At the time of the accident, the airplane had accumulated 0.8 hours. According to the pilot, the airplane was equipped with primary and secondary electrically driven fuel pumps. In addition, the flaps were electrically actuated.

The airplane was retained for further examination.

# National Transportation Safety Board - Aircraft Accident/Incident Database

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Accident Rpt# CEN17LA015	10/07/2016 1315 CDT	Regis# N522LM	Livingston, TX	Apt: Livingston Municipal Airport OOR
Acft Mk/Mdl MILHOLLAND KELLY D		Acft SN 76	Acft Dmg: SUBSTANTIAL	Rpt Status: Factual Prob Caus: Pending
Eng Mk/Mdl LYCOMING 0-290 D2		Acft TT 686	Fatal 0 Ser Inj 0	Flt Conducted Under: FAR 091
Opr Name: OLIVER WILLIAM R		Opr dba:		Aircraft Fire: NONE

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## Events

1. Approach - Powerplant sys/comp malf/fail

## Narrative

On October 7, 2016, about 1315 central daylight time, a Milholland Kelly D airplane, N522LM, was substantially damaged during a forced landing 1/2 mile north of Livingston Municipal Airport (OOR), Livingston, Texas. The 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. The cross-country flight departed Sport Flyers Airport (27XS), Brookshire, Texas, about 1200, and was en route to OOR.

According to the pilot, while approaching OOR for landing, the engine rpms decreased and the engine stopped producing power. He added that there were no indications from the engine or the engine gauges prior to the sudden power loss. During the forced landing to the field, the landing gear collapsed and partially separated from the fuselage. The lower wings, fuselage, and firewall were substantially damaged.

An examination of the engine revealed that the left magneto was not producing spark. Further examination of the engine and related systems revealed no additional mechanical anomalies that would have precluded normal operations.

The left magneto was placed on a test machine and brought to operating speed. Each of the four ignition leads produced spark; however, at times the spark was intermittent. Further examination of the magneto revealed a greyish color on the points, consistent with failure of the capacitor. The technician remarked that a magneto could test within expected parameters but when it got hot during normal engine operations, it could fail.

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# National Transportation Safety Board - Aircraft Accident/Incident Database

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Accident Rpt# GAA17CA400	07/07/2017 1100	Regis# N599JR	Kemmerer, WY	Apt: Kemmerer Muni EMM
Acft Mk/Mdl RITTER JOHN I S D S C-NO SERIES		Acft SN 001	Acft Dmg: SUBSTANTIAL	Rpt Status: Prelim Prob Caus: Pending
			Fatal 0 Ser Inj 0	Flt Conducted Under: FAR 091
Opr Name: RITTER, JOHN I.		Opr dba:		Aircraft Fire: NONE

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# National Transportation Safety Board - Aircraft Accident/Incident Database

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Accident Rpt# GAA17CA299	05/21/2017	1230 AKD	Regis# N484WT	Talkeetna, AK	Apt: Talkeetna TKA
Acft Mk/Mdl THOMAS E HUDZINSKI BACKCOUNTRY	Acft SN BC31411007	Acft Dmg: SUBSTANTIAL	Rpt Status: Factual	Prob Caus: Pending	
Eng Mk/Mdl AEROSPORT POWER IO-375	Acft TT 460	Fatal 0	Ser Inj 0	Flt Conducted Under: FAR 091	
Opr Name: THOMAS E. HUDZINSKI	Opr dba:			Aircraft Fire: NONE	
				AW Cert: SPE	

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## Events

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

The pilot reported that, while participating in a slow flight competition, he was over the target area for the radar speed check about 30ft. above the ground, at 17 mph ground speed, when the left wing stalled. He added, that he did not have sufficient altitude to recover. Subsequently, the airplane impacted the ground.

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.