Accident Rpt# ERA12FA508	**08/15/2012 727 EDT**	**Regis# N678DR**	**Clifton Park, NY**	**Apt: Albany International ALB**
Acft Mk/Mdl BEECH A36TC		**Acft SN EA-216**	**Acft Dmg: SUBSTANTIAL**	**Rpt Status: Factual Prob Caus: Pending**
Eng Mk/Mdl CONT MOTOR TSIO-520 SER		**Acft TT 3191**	**Fatal 1 Ser Inj 1**	**Flt Conducted Under: FAR 091**
Opr Name: N800G LLC		**Opr dba:**		**Aircraft Fire: NONE**
				AW Cert: STN

Narrative

On August 15, 2012, at 0727 eastern daylight time, a Beech A36TC, N678DR, was substantially damaged when it impacted trees and terrain during a forced landing near Clifton Park, New York. The certificated airline transport pilot and the pilot-rated passenger were fatally injured. Visual meteorological conditions prevailed, and an instrument flight rules flight plan was filed for the flight, which departed from Albany International Airport (ALB), Albany, New York at 0724, and was destined for Plattsburg Airport (PBG), Plattsburg, New York. The business flight was conducted under the provisions of Title 14 Code of Federal Regulations Part 91.

Review of air traffic control (ATC) information provided by the Federal Aviation Administration (FAA) revealed that the pilot contacted ATC about 0720 and requested clearance to taxi for departure. The controller initially advised the pilot to taxi to runway 1 via taxiway D and A. The pilot subsequently advised the controller that he could accept an intersection departure from runway 1 at D, and was subsequently issued that clearance. At 0722, the pilot requested to depart from runway 1 at D, but was advised that there would be a 3 minute delay due to wake turbulence from a previously departed Boeing 737. The pilot then requested to "waive" the delay, and was issued a takeoff clearance about 1 minute later. In addition to a warning of wake turbulence, the pilot was issued a departure heading of 040 degrees.

The airplane departed from runway 1 at 0724, turned northeast, and continued to climb. At 0725, at an altitude of 1,100 feet msl, the pilot advised ATC, "eight delta romeo just lost our engine". No further transmissions were received from the pilot, and radar contact was lost about 30 seconds later at an altitude of 300 feet msl.

PERSONNEL INFORMATION

The pilot, age 68, held an airline transport pilot certificate with numerous ratings, including airplane single engine land, as well as a flight instructor certificate with numerous ratings including airplane single engine. His most recent FAA second-class medical certificate was issued on March 1, 2012 with the limitation, "must have available glasses for near vision." A review of the pilot's flight logs showed that he had accumulated 11,008 total hours of flight experience, 1,110 hours of which were in the accident airplane make and model. During the 90 days preceding the accident, the pilot had accumulated 143 hours of flight experience, 34 hours of which were in the accident airplane.

According to the pilot's son, the pilot was a friend of the accident airplane's owners, and was allowed to utilize the airplane anytime he needed. He further described that the pilot flew very often, and had previously flown many people in the accident airplane. While the passenger did hold a pilot certificate, he had not flown a great deal in the recent past. The purpose of the flight was for the pilot and passenger to attend a business meeting in Plattsburg, New York.

AIRCRAFT INFORMATION

According to airworthiness records maintained by the FAA, the airplane was manufactured in 1981 and was equipped with a Continental Motors TSIO-520-UB turbo-supercharged, fuel injected engine. Review of maintenance records showed that a factory rebuilt engine was installed on the airplane in May 1996, at an aircraft total time of 1,591 flight hours. The airplane's most recent annual inspection was completed on October 15, 2011 at 3,190 total aircraft hours. At the time of the accident, the airframe had accumulated 3,364 total flight hours, and the engine had accumulated 1,773 total flight hours since its installation.

AIRPORT INFORMATION

The ALB airport was comprised of two intersecting runways oriented in a 1/19 and 10/28 configuration, at an elevation of 285 feet. Runway 1 was 8,500 feet long by 150 feet wide. Taxiway A ran parallel to runway 1 and was located to the west of the runway. Taxiway D intersected runway 1 about 3,250 feet beyond the runway approach threshold. From that intersection, about 5,250 feet of runway was available for a departure.

The airplane was most recently serviced with 85 gallons of 100LL fuel by a fixed base operator at ALB on the day preceding the accident. Following the

accident, a fuel quality assurance review was conducted by the fixed based operator, and no deficiencies were noted during the inspection.

METEOROLOGICAL INFORMATION

The 0753 weather observation at ALB included calm winds, 10 statute miles visibility with patches of fog present to the west and southwest, few clouds at 100 feet, scattered clouds at 8,000 feet, a broken ceiling at 13,000 feet, and a broken ceiling at 25,000 feet. The temperature was 19 degrees Celsius (C), the dew point was 18 degrees C, and the altimeter setting was 29.90 inches of mercury.

FLIGHT RECORDERS

The airplane was not equipped with any flight data recording devices, nor was it required to be; however, a hand-held global positioning system (GPS) receiver was recovered from the wreckage, and found to contain data pertaining to the accident flight. The initial data point was recorded at 0721, as the airplane taxied toward runway 1 at ALB via taxiway D. The airplane subsequently taxied onto runway 1 at 0723, at the point where the runway intersected taxiway D.

The airplane accelerated down the runway and began climbing at 0724:26, and 8 seconds later had climbed to a GPS-derived altitude of 341 feet, at a GPS groundspeed of 88 knots. At that point, the airplane began a right turn about 1,600 feet prior to reaching the runway departure end. The airplane continued to climb while on an approximate 40-degree magnetic track. At 0725:50, the airplane reached a maximum altitude of 1,115 feet, at a GPS groundspeed of 111 knots, about 2 nautical miles northeast of the runway 1 departure end.

Over the next 30 seconds, the airplane turned about 90 degrees left as it descended and slowed. By 0726:24, the airplane had established a heading of 305 degrees, descended to 627 feet, and slowed to a GPS groundspeed of 85 knots. About 25 seconds later, the airplane's final position was recorded at an altitude of 302 feet and a GPS groundspeed of 76 knots.

A plot of the airplane's position for the final moments of the flight showed that an open field about 1,000 feet long, and aligned with the airplane's final approach path, was located about 1,000 feet west of its final GPS-recorded position. Additionally, a two-lane asphalt road paralleled the airplane's final approach path; however utility wires paralleled and crossed the road at numerous points in the vicinity of the accident site.

WRECKAGE AND IMPACT INFORMATION

The accident site was located in a residential area approximately 3 miles northeast of ALB, at an elevation of 260 feet. The initial impact point (IIP) was identified by several damaged tree limbs, at a height of about 30 feet, and was located about 45 feet west of the airplane's final GPS-recorded position. The wreckage path about was about 150 feet long, and oriented approximately 320 degrees magnetic. A ground scar, along with the outboard portion of the right wing and aileron, were located about 95 feet beyond the IIP, along the wreckage path. The main portion of the wreckage consisted of the fuselage and inboard portions of both wings, and was located about 45 feet from the ground scar. The fuselage remained upright, and was oriented on a 280-degree magnetic heading. The outboard portion of the left wing was located about 10 feet beyond the main wreckage.

The left wing remained attached to the fuselage by all four of its attachment bolts. The outboard portion of the wing separated in the vicinity of the landing gear, and the left main landing gear remained stowed in its well. The right wing also remained attached to the fuselage by its attachment bolts, with the outboard portion separating near the outer portion of the flap. The right main landing gear remained stowed within its well. The landing gear actuator was in the retracted position.

Control continuity was confirmed from the control column to the elevator and left aileron, and through a fracture of the right aileron bellcrank to the right aileron, and rudder control continuity was confirmed from both rudder pedals to the rudder. Measurement of the left and right elevator trim tab actuators revealed extensions corresponding to a 10-degree tab-down position (nose up trim). Measurement of both flap actuator rods corresponded to a flaps retracted position.

The fuel selector was found in the left tank position. Examination of the fuel system revealed that it remained continuous from the firewall, through the selector valve, to both fuel tanks, with no breaches or obstructions noted. Residual fuel was observed in both main and both auxiliary wingtip fuel tanks. The color and odor of the fuel appeared consistent with 100LL aviation fuel, and all samples taken were absent of water or debris. The auxiliary fuel pump switch was found in the HIGH position, though the structure surrounding the switch was deformed consistent with impact.

The pilot and copilot seats remained attached to the seat rails with no deformation noted. The mounting points and buckles for both the pilot and copilot restraints appeared intact and undamaged, and first responders reported that the pilot and passenger were wearing both lap and shoulder restraints upon arriving at the accident scene.

The engine remained attached to the fuselage, and 2 of the 3 propeller blades exhibited impact-related damage. One blade was bent aft about 45 degrees near the mid-span point and the other blade was bent aft about 90 degrees near the mid-span point. None of the blades exhibited chordwise scratching or leading edge gouging.

The engine was separated from the airframe and shipped to the manufacturer for a test run. The impact-related damage was generally concentrated near the aft portion of the engine. The induction system riser to the number one cylinder, the induction system "Y" pipe, and oil cooler, along with several fuel system fittings, were replaced to facilitate the test run. During preparation for the test run, a red clay/dirt-like substance was found at an impact-damaged port of the fuel metering unit. The fuel manifold valve screen, located downstream of the fuel metering unit within the fuel system, was examined and found to be absent of debris or contamination.

The engine was subsequently placed in a test cell and started normally on the first attempt without hesitation or stumbling. The engine rpm was advanced in steps to 1,200, 1,600, and 2,450 rpm for a period of 5 minutes per step to allow for warm-up. The throttle was then advanced to full power for 5 minutes before the throttle was rapidly advanced from idle to full power 6 times. The engine performed normally throughout each of the tests without any hesitation, stumbling, or interruption of power; however, testing of the magnetos showed that the right magneto was inoperative.

Following the test run, the right magneto was removed from the engine and examined. The points of the magneto exhibited corrosion. The corrosion was subsequently cleaned from the points, and the magneto was then run on a test stand. The magneto operated normally, and further disassembly revealed no anomalies.

MEDICAL AND PATHOLOGICAL INFORMATION

The pilot sustained serious injuries during the accident and subsequently succumbed to those injuries on August 28, 2013. An autopsy and toxicological testing were not performed.

ADDITONAL INFORMATION

The airframe manufacturer published an emergency procedure detailing the actions pilots should take following a loss of engine power immediately after lift-off. After eliminating the possibility of fuel exhaustion, the procedure advised the pilot:

"2. Auxiliary Fuel Pump - LOW If a Failed Engine-Driven Fuel Pump is Suspected (Indicated by zero fuel flow):

3. Auxiliary Fuel Pump - HI"

A warning was noted below that stated:

"The only reason for the high (HI) boost position is to supply fuel for priming prior to starting and to supply fuel to the engine if the engine-driven fuel pump fails. DO NOT USE THIS POSITION FOR ANY OTHER REASON. If high (HI) boost is selected when the engine-driven pump is operating, the engine will run rich and may quit depending on throttle setting, temperature and altitude."

The checklist advised that if an ignition problem was suspected, the pilot should verify that the magnetos were selected to the "BOTH" position.

The first step of the procedure for a rough running engine immediately after lift-off stated, "Ensure auxiliary fuel pump is not on HI."

Accident Rpt# ANC12FA095 08/31/2012 1500 ADT	**Regis# N57511**	**Homer, AK**	
Acft Mk/Mdl BELLANCA 7GCBC	**Acft SN 529-73**	**Acft Dmg: SUBSTANTIAL**	**Rpt Status: Factual Prob Caus: Pending**
Eng Mk/Mdl LYCOMING O-320 SERIES		**Fatal 1 Ser Inj 0**	**Flt Conducted Under: FAR 091**
Opr Name: VONDERHEIDE GEORGE H	**Opr dba:**		**Aircraft Fire: NONE**
			AW Cert: STN

Narrative

HISTORY OF FLIGHT

On August 31, 2012, about 1500 Alaska daylight time, a float-equipped, Bellanca 7GCBC airplane, N57511, sustained substantial damage during an impact with terrain, following a collision with a high tension power cable spanning a river, about 12 miles southeast of Homer, Alaska. The airplane was being operated as a visual flight rules (VFR) personal cross-country flight, under Title 14, CFR Part 91, when the accident occurred. Marginal visual meteorological (MVFR) conditions prevailed in the area of the accident. The private pilot, the sole occupant, was fatally injured. No flight plan was filed, and there is no record that a weather briefing was obtained. The flight originated about 1450 from the Beluga Lake Seaplane Base, Homer.

During a telephone conversation with the National Transportation Safety Board (NTSB) investigator-in-charge (IIC) on September 4, a family member said the pilot was to ferry camping gear from Homer, to a remote lake southeast of Homer, and then return and pick up a passenger. After taking off to ferry the camping gear the airplane did not return to Homer.

INJURIES TO PERSONS

The solo pilot received fatal injuries.

DAMAGE TO AIRCRAFT

The airplane received substantial damage to its fuselage and wings.

PERSONNEL INFORMATION

The pilot age 66, held a private pilot certificate with ratings for airplane single engine land, and airplane single-engine sea. He was issued a third class airman medical certificate with limitations to wear corrective lenses on February 15, 2011.

No personal flight records were discovered for the pilot, and the aeronautical experience listed on page 3 of this report was obtained from a review of the airman's FAA records on file in the Airman and Medical Records Center in Oklahoma City. On the pilot's last application for medical certificate, dated February 15, 2011, he indicated that his total aeronautical experience consisted of about 2000 hours, of which 40 were accrued in the previous 6 months.

AIRCRAFT INFORMATION

The airplane was a Bellanca 7GCBC, N57511, manufactured in 1973, and equipped with a Lycoming O-320 series engine.

No airframe or engine logbooks were discovered for examination, and the airplane was not recovered for further examination.

METEOROLOGICAL INFORMATION

Marginal meteorological conditions prevailed in Homer at the time of the airplane's departure.

The closest official weather observation station was at the departure airport, Homer (PAHO), about 10 miles northwest of the accident site. At 1453, an aviation routine weather report (METAR) was reporting, in part: Wind 230 degrees (true) at 3 knots; visibility 3 statute miles with light rain; sky condition, scattered at 400 feet, overcast at 1,200 feet; temperature 46 degrees F; dew point, 46 degrees F; altimeter 29.72 inHg.

COMMUNICATIONS

After departing Homer no communications were heard from the accident airplane, and no air traffic control services were requested.

WRECKAGE AND IMPACT INFORMATION

During an on-site inspection of the airplane's wreckage on September 1, the NTSB IIC noted that the terrain was a braided river valley, with steep rising terrain on the southwest side of the river, and gently sloping terrain on the northeast side of the river. Multiple high tension power cables were draped across the river from the high terrain on the southwest side, to the near level terrain on the northeast side of the river. One cable was severed and laying on the ground. The severed power line had large, orange, power line marking balls attached. The other intact power lines spanning the river were also marked with large orange power line marking balls.

The airplane was located in shallow water on a sandbar near the center of the braided river. It had impacted in a nose-low near vertical descent (60 plus degrees down). The wings were straight with wrinkling near both tips. The fuselage was broken and bent 90 degrees aft of the cabin. The empennage was intact. The vertical stabilizer had a large impact divot about mid-span of the leading edge that did not appear to be associated with terrain impact damage. Control continuity was established for all the flight controls.

The propeller blades showed torsional twisting and severe leading edge gouging, consistent with power at the time of terrain impact.

MEDICAL AND PATHOLOGICAL INFORMATION

A postmortem examination of the pilot was done under the authority of the Alaska State Medical Examiner, Anchorage, Alaska, on September 4, 2012. The examination revealed that the cause of death was attributed to severe blunt force injuries.

A toxicological examination by the FAA's Civil Aeromedical Institute (CAMI) on November 1, 2012, was negative for any alcohol or drugs.

ADDITIONAL DATA/INFORMATION

FAR 91.103 describes the pilot-in-command's preflight duties, and most pilots are intimately familiar with its wording: "Each pilot in command shall, before beginning a flight, become familiar with all available information concerning that flight."

The Seward Sectional Aeronautical Chart, which covers the Homer area and the accident site, shows the electrical transmission lines crossing the river en route to the destination lake.

Accident Rpt# ERA13LA169 03/16/2013 1000 EDT	**Regis# N4019A**	**Homestead, FL**	**Apt: Homestead General X51**	
Acft Mk/Mdl CAMERON BALLOONS US Z-105	**Acft SN 6473**	**Acft Dmg: MINOR**	**Rpt Status: Factual**	**Prob Caus: Pending**
	Acft TT 210	**Fatal 0 Ser Inj 2**	**Flt Conducted Under: FAR 091**	
Opr Name: AARONS BALLOON CO LLC	**Opr dba: BALLOON OVER MIAMI**		**Aircraft Fire: IFLT**	

Narrative

HISTORY OF FLIGHT

On March 16, 2013, about 1000 eastern daylight time, a Cameron Balloons Z-105, N4019A, incurred minor damage after impacting power lines during a landing approach to a field near Homestead General Aviation Airport (X51), Homestead, Florida. The balloon was registered to and operated by Aaron's Balloon Company, LLC, doing business as Balloon Over Miami. The commercial pilot was not injured and the two passengers sustained serious injuries. Visual meteorological conditions prevailed, and no flight plan was filed for the revenue sightseeing flight that was conducted under the provisions of Title 14 Code of Federal Regulations Part 91. The flight originated from an empty field in rural Miami-Dade County, Florida, about 0825.

According to the pilot, the flight's cruise altitude was approximately 1,000 feet mean sea level. He stated that while airborne, he checked the weather and winds multiple times and even used the "shaving cream" method to monitor wind direction. During the approach to landing, the pilot stated that he was aware of, and knew the location of, the power lines. He further stated that he "normally avoids them by having extra altitude so that the balloon can clear them." The pilot stated that about 500 feet above ground level (agl) and two miles from the expected touchdown zone, he verified the wind, and descended to 200 feet agl. As the balloon approached the power lines, a downdraft of wind pushed the balloon onto the power lines. The pilot stated that he normally flies the balloon with only one burner in operation but had both burners on full power in an attempt to overcome the down draft. The pilot further reported that just prior to impact with the wires he turned off the burners. Upon contact with the power lines, there was a flash fire which caused serious injuries to the passengers. The fuel system of the balloon was not involved in the fire. The pilot did not report any preflight malfunctions that would have precluded normal operations. According to a report provided by the ground crew everything looked normal until impact with the power line.

According to a passenger on the balloon, she and her boyfriend met the balloon operator about 0600. From there, the group moved from the rendezvous location to another location in northwest rural Miami-Dade County, that she was unfamiliar with. The passenger stated that the pilot was studying weather patterns and that he requested that they both help the pilot assemble the balloon. The passenger stated that the pilot's intended destination was X51. They took off about 0800 and the pilot was providing a "tour" and flying over local farms. The passenger stated that since there was no wind, the flight was unusually long and that she was "getting bored." The two passengers were starting to wonder why the balloon was low over the farm fields as the gondola (basket) was brushing the tops of trees as they flew by. She stated that she was able to see the farm worker's faces, waved to them, and that she remembers a little dog barking. The pilot stated that it was normal to fly low and that he did not want to land the balloon into a "seeded" field.

The female passenger recalled that the pilot was in radio communication with the ground crew and that they warned him of power lines in the balloon's path. As the gondola approached the power lines, she added that the gondola hit the lines on the side of the basket. There was also a sound of desperation from the pilot asking for her boyfriend to throw the line out to the ground crew. As the gondola impacted the power lines, she remembers a big flash, being electrocuted, and then falling and losing control of all her limbs. She stated that the only thing that she remembers after her electrocution was looking up and seeing her boyfriend who was on fire on his back side.

According to the male passenger, he and his girlfriend helped the pilot assemble the balloon. The passenger and his girlfriend received a safety briefing from the pilot that contained information that pertained to watching out for power lines and trees. The passenger stated that the pilot's original destination was X51. As the flight progressed, the winds were very light and the flight was getting boring due to the extended duration. The witness added that about a mile and a half from the wire impact point, the pilot knew that he wasn't going to be able to make a landing at X51. He recalled that he, and his girlfriend, wondered why the balloon was so low over the tomato and avocado fields, and estimated their altitude as approximately 10 feet agl. The witness remembered that while the pilot was directing his ground crew to a suitable landing location, they warned him about the power lines. He remembers the pilot mentioning the power lines and that the pilot gave him landing instructions, which were to deploy a line to the ground crew when the pilot commanded.

The male passenger stated that as they approached the power lines, the pilot was trying to add power to the burners. As they approached the power lines, the pilot directed them to assume their respective landing positions. The passenger indicated that the pilot was standing behind his girlfriend and that he was the only person on his side of the basket. As the basket made contact with the power lines, he recalled seeing a fire ball come from the wires. The passenger

stated that other than looking down and seeing his girlfriend on fire, he did not remember anything after that.

According to an eyewitness the balloon was observed just above tree tops and that the balloon appeared to be "show boating or was in trouble." The witness also added that the pilot was "putting the coals" to it to get airborne, and it appeared that the balloon tried to land in the field adjacent to his property. A picture provided by the witness depicts the balloon about 50 feet agl.

PERSONNEL INFORMATION

The pilot, age 39, holds a commercial pilot certificate with ratings for airplane single-engine land, airplane single-engine sea, airplane multiengine land, instrument airplane, and lighter-than-air-balloon. According to the pilot he had accrued 143 total hours of flight experience in balloons at the time of the accident.

BALLOON INFORMATION

The balloon was a Cameron Balloons, U. S., serial number 6473; it consisted of a 24 gore A-Type envelope, a single/double burner heater, and was equipped with 3 stainless steel fuel tanks. It also had a MINI-T type basket which was constructed of wicker and aluminum sub-frame. The basket was manufactured in 2007. The balloon was issued a standard airworthiness certificate on June 18, 2011.

METEOROLOGICAL INFORMATION

The 0958 recorded surface weather observation at X51, located approximately 1 mile to the west of the accident site, included wind from 040 degrees at 04 knots, visibility 10 statute miles, clear skies, temperature 19 degrees C, dew point 12 degrees C, and an altimeter setting of 30.21 inches of mercury. A review of other nearby recorded weather observation information revealed similar weather conditions throughout the area.

An NTSB Meteorologist provided a report of the surface analysis surrounding the area of the wreckage on the day of the accident. According to the report, there was no evidence that supported a convective downdraft, outflow or other surface wind event around 0930-1000 on March 16, 2013 near X51. Weather Surveillance Radar, 1988, Doppler (WSR-88D) weather radar and Terminal Doppler Weather Radar from Miami were relatively clear. Neither gave an indication of convection nearby or a boundary/gust moving through the accident area. Widespread weather radar targets moving through the area toward the west coast of Florida near that time were noted on the WSR-88D between 0900-0930; however, those targets appeared to be biological and not meteorological. Weather satellite data gave no indication of surface wind hazards. All surface observations in the area near the time of the accident indicated a light wind surrounding the accident period. The highest gust noted for the area was 12 knots reported by an unofficial station six nautical miles to the north near Chekika Park, Florida. All automated weather-reporting commercial aircraft flying into and out of KMIA around the accident time indicated light wind below 1,000 feet msl. There was nothing of note in any of the National Weather Service products. There were no low-altitude pilot reports.

WRECKAGE AND IMPACT INFORMATION

Examination of the balloon by NTSB investigators and a Federal Aviation Administration inspector revealed that the bottom sub-frame retaining bolts and nuts showed marks consistent with arc damage. One propane tank incurred marks on the valve guard ring consistent with arc damage. The envelope sustained three burn holes about ten inches in diameter along the vertical load tape. The first propane tank quantity gauge read seven percent, the second tank read forty percent, and the third propane tank read two percent.

ADDITIONAL INFORMATION

FAA-H-8083-11A BALLOON FLYING HANDBOOK

Chapter 7 "Inflight Maneuvers" states in part "One technique to determine if the balloon is ascending, flying level, or descending is to sight potential obstacles in the flight path of the balloon as the balloon approaches the wires, the pilot should determine how the wires (or other obstacles) are moving in his or her field of vision relative to the background. If they are moving up in the pilot's field of vision, or staying in stationary, then the balloon is on a descent that may place the pilot and passengers at risk. Conversely, if the wires are moving down in the pilot's field of vision, then the balloon is either in level flight or ascending, and able to clear the obstacle. Vigilance is required for constant scanning of the terrain along the flight path, and the pilot must be alert to avoid becoming fixated on

sighting objects."

Accident Rpt# WPR13CA252	**05/30/2013 1715 PDT**	**Regis# N7701T**	**Eatonville, WA**	**Apt: Swanson Airport K2W3**
Acft Mk/Mdl CESSNA 172A		**Acft SN 47301**	**Acft Dmg: SUBSTANTIAL**	**Rpt Status: Factual Prob Caus: Pending**
Eng Mk/Mdl CONT MOTOR O-300 SER		**Acft TT 3403**	**Fatal 0 Ser Inj 0**	**Flt Conducted Under: FAR 091**
Opr Name: REID MATTHEW J		**Opr dba:**		**Aircraft Fire: NONE**

Narrative

The pilot stated that when he was 35 miles from his destination he reduced power to descend from 6,500 feet to 3,000 feet, and applied carburetor heat. When he added power to level off at 3,000 feet, the engine rpm stabilized between 1,800 to 2,000 rpm. The pilot stated that he suspected carburetor ice and applied carburetor heat again but the engine did not regain full power. He diverted to a nearby airport and entered the pattern for the northern runway. During the landing sequence he determined that he was landing long. He applied power to perform a go-around, however, the engine only accelerated to 1,500 - 1,600 rpm. As he flew the airplane into a left turn to avoid trees the airplane stalled, entered a descent, and impacted a house.

The carburetor icing chart indicated the possibility of serious carburetor icing at the reported temperatures. The Pilot's Handbook of Aeronautical Knowledge (FAA-H-8083-25A) states that first indication of carburetor ice in an airplane with a fixed-pitch propeller is a decrease in engine rpm. Additionally, it states that when conditions are conductive to carburetor icing that carburetor heat should be applied immediately and should be left ON until the pilot is certain all the ice has been removed. If ice is present applying partial heat or leaving heat on for an insufficient time might aggravate the situation.

Postaccident examination of the airframe and engine revealed no preimpact mechanical malfunctions or failure that would have precluded normal operation.

Accident Rpt# WPR13CA241	**05/23/2013 1045 PDT**	**Regis# N8879V**	**Truckee, CA**	**Apt: Private NA**	
Acft Mk/Mdl CESSNA 172M		**Acft SN 17264238**	**Acft Dmg: SUBSTANTIAL**	**Rpt Status: Factual**	**Prob Caus: Pending**
Eng Mk/Mdl LYCOMING O-320 SERIES		**Acft TT 3724**	**Fatal 0 Ser Inj 0**	**Flt Conducted Under: FAR 091**	
Opr Name: BELKNAP RONALD L		**Opr dba:**		**Aircraft Fire: NONE**	

Narrative

The pilot reported that he was making his first landing of the summer season on a high mountain dirt/turf airstrip. The airplane touched down left of centerline, which sloped to the left. The pilot was unable to correct back to the right before the left wing struck a pine tree next to the airstrip. The airplane spun to the left and skidded sideways when the right wing contacted the surface. Both wings and fuselage were substantially damaged. The pilot reported no preimpact mechanical malfunctions or failures with the airplane that would have precluded normal operation.

Accident Rpt# ERA13LA279	**06/11/2013 2225 EDT**	**Regis# N118JD**	**Louisville, KY**	**Apt: Bowman Field LOU**
Acft Mk/Mdl CESSNA 172M		**Acft SN 17265574**	**Acft Dmg: SUBSTANTIAL**	**Rpt Status: Prelim** **Prob Caus: Pending**
Eng Mk/Mdl LYCOMING O-320			**Fatal 0** **Ser Inj 4**	**Flt Conducted Under: FAR 091**
Opr Name: CODY GOODAN		**Opr dba:**		**Aircraft Fire: NONE**

Narrative

On June 11, 2013, about 2225 eastern daylight time, a Cessna 172M, N118JD, operated by a private individual, was substantially damaged when it impacted terrain during takeoff from Bowman Field (LOU), Louisville, Kentucky. The private pilot and three passengers were seriously injured. Visual meteorological conditions prevailed, and no flight plan was filed for the local flight. The personal flight was conducted under the provisions of 14 Code of Federal Regulations Part 91.

The pilot was seriously injured and unable to provide a statement about the accident. Review of radar data provided by the Federal Aviation Administration (FAA) revealed the airplane was performing touch-and-go landings to runway 33 at LOU. On the fourth touch-an-go landing, the airplane took off from runway 33, and radar contact was lost at about 200 feet above ground level. The airplane impacted the ground about 430 feet from the departure end of the runway. According to an FAA inspector, the right wing impacted the ground first and the airplane pivoted around the nose before coming to rest upright, nose down, on a golf course. Both propeller blades exhibited chordwise scratching and the inspector noted substantial damage to both wings and the fuselage. The wreckage was retained for further examination.

Accident Rpt# ERA13CA216	**04/28/2013 1130 EDT**	**Regis# N180VW**	**Bethel, ME**	**Apt: Bethel Regional Airport 0B1**
Acft Mk/Mdl CESSNA 180		**Acft SN 32005**	**Acft Dmg: SUBSTANTIAL**	**Rpt Status: Factual Prob Caus: Pending**
Eng Mk/Mdl CONT MOTOR O-470 SERIES		**Acft TT 3554**	**Fatal 0 Ser Inj 0**	**Flt Conducted Under: FAR 091**
Opr Name: TWO LLC		**Opr dba:**		**Aircraft Fire: NONE**

Narrative

According to the pilot, he applied left aileron to his tailwheel-equipped airplane on the final approach leg to counteract a left crosswind. The crosswind then ceased, at which point the pilot backed off the aileron input. As the airplane was touching down, it encountered another crosswind and the pilot again applied left aileron to counteract it; however, the left wing and left main landing gear became airborne and the airplane departed the right side of the runway. The pilot then "rode" the right brake and the airplane continued to the right until the left wing came down and the left main landing gear collapsed, resulting in substantial damage to left wing. The pilot reported no preimpact mechanical malfunctions or anomalies that could have precluded normal operation. Winds, recorded at a nearby airport about the time of the accident, were variable at 5 knots.

Accident Rpt# ERA13CA265	**05/31/2013 1100 EDT**	**Regis# N2724X**	**Concord, NH**	**Apt: Concord Municipal Airport CON**
Acft Mk/Mdl CESSNA 180		**Acft SN 18051524**	**Acft Dmg: SUBSTANTIAL**	**Rpt Status: Factual Prob Caus: Pending**
Eng Mk/Mdl CONTINENTAL MOTORS O-470R		**Acft TT 4383**	**Fatal 0 Ser Inj 0**	**Flt Conducted Under: FAR 091**
Opr Name: COMFORT KENNETH W		**Opr dba:**		**Aircraft Fire: NONE**

Narrative

The pilot reported that during the landing roll, the tailwheel-equipped airplane began to "fishtail" and drift toward the side of the runway. The pilot attempted to correct the oscillation by applying the brakes, but was "slightly late" in applying the correction and the airplane departed the side of the runway. After becoming partially buried in the soft ground, the right main landing gear collapsed, resulting in substantial damage to the fuselage at the right main landing gear attach point as well as the engine firewall. The pilot reported there were no mechanical malfunctions or anomalies that would have precluded normal operation of the airplane.

Accident Rpt# ERA13CA247	**05/17/2013 1530 EDT**	**Regis# N8775X**	**East Moriches, NY**	**Apt: Lufker Airport 49N**
Acft Mk/Mdl CESSNA 182D		**Acft SN 18253175**	**Acft Dmg: SUBSTANTIAL**	**Rpt Status: Factual** **Prob Caus: Pending**
Eng Mk/Mdl CONT MOTOR O-470 SERIES			**Fatal 0** **Ser Inj 0**	**Flt Conducted Under: FAR 091**
Opr Name: 516-SKYDIVE		**Opr dba:**		**Aircraft Fire: NONE**

Narrative

According to the pilot, he leveled the airplane at 3,500 feet for a tandem skydive. When the instructor exited the airplane, the nose pitched up, then the airplane pitched over into a right, descending turn. The pilot assessed the situation and determined that the right horizontal stabilizer was bent. He later determined that the instructor's drogue chute became trapped under the flap handle, resulting in a premature deployment of the parachute. The drogue chute then caught the horizontal stabilizer, resulting in a 45-degree downward bend. The pilot reported no pre-impact mechanical malfunctions or failures with the airplane that would have precluded normal operation.

Accident Rpt# WPR13CA231	**05/15/2013 1515 PDT**	**Regis# N911HE**	**Carson City, NV**	**Apt: Carson City CXP**
Acft Mk/Mdl CESSNA 182P		**Acft SN 18261419**	**Acft Dmg: SUBSTANTIAL**	**Rpt Status: Factual Prob Caus: Pending**
Eng Mk/Mdl CONT MOTOR O-470 SERIES		**Acft TT 4309**	**Fatal 0 Ser Inj 0**	**Flt Conducted Under: FAR 091**
Opr Name: JAMES R. NOWLIN		**Opr dba:**		**Aircraft Fire: NONE**

Narrative

The pilot was on a personal scenic tour flight; the airplane was climbing southwest, and approaching 9,000 feet mean sea level. He planned to cross a mountain saddle between 400 and 500 feet above ground level. The flight encountered a strong downdraft; the airspeed dropped to about 80 mph,and the airplane stopped climbing. It then encountered another downdraft, which resulted in the airplane descending. The pilot attempted to arrest the descent by applying full engine power, but was unsuccessful. He maneuvered the airplane to avoid some trees before impacting the rising terrain. The airplane sustained substantial damage to both wings and the tail section. The pilot reported no preimpact mechanical malfunctions or failures with the airplane that would have precluded normal operations.

Accident Rpt# CEN12FA290	**05/11/2012 1630 CDT**	**Regis# N9DM**	**Chanute, KS**	
Acft Mk/Mdl CESSNA 401		**Acft SN 401-0123**	**Acft Dmg: SUBSTANTIAL**	**Rpt Status: Factual Prob Caus: Pending**
Eng Mk/Mdl TELEDYNE CONTINENTAL MOTORS		**Acft TT 2456**	**Fatal 4 Ser Inj 1**	**Flt Conducted Under: FAR 091**
Opr Name: PRIVATE INDIVIDUAL		**Opr dba:**		**Aircraft Fire: GRD**
				AW Cert: STN

Narrative

HISTORY OF FLIGHT

On May 11, 2012, approximately 1630 central daylight time, a Cessna 401 airplane, N9DM, collided with terrain near Chanute, Kansas. A post crash fire ensued. The commercial pilot and three passengers were fatally injured. One passenger was seriously injured. The airplane was substantially damaged. The airplane was registered to DRDJ Sales and operated by the pilot under the provisions of 14 Code of Federal Regulations Part 91, as a personal flight. Visual meteorological conditions prevailed for the flight which operated on an instrument flight rules plan. The cross-country flight departed the Richard Lloyd Jones Jr. Airport (RVS), Tulsa, Oklahoma, approximately 1545, for the Council Bluffs Municipal Airport (CBF), Council Bluffs, Iowa.

The survivor of the accident provided a written statement of the accident. She reported that when the pilot turned on the heater, a "terrible smell" was detected. The pilot told the passengers that the smell was normal for some heaters. When the pilot turned the heater off, dark, black smoke began to enter the airplane, which made it difficult to see. In an attempt to extinguish the fire, they poured water bottles in the vents, which had not effect. The pilot quickly descended. During the emergency landing, the pilot attempted to pull up, but the wing tip hit the ground first. The passenger thought the airplane rolled as it hit the ground. Another passenger assisted her in egressing from the airplane, but that survivor later succumbed to his injuries.

PERSONNEL INFORMATION

The pilot, age 23, held a commercial pilot certificate with airplane single engine land, airplane multiengine land, and instrument airplane ratings. On June 28, 2011, a first class medical certificate was issued with the restriction "not valid for night flying or by color signal control." At the time of the pilot's application for a medical certificate he reported accumulating 600 total hours, with 50 logged in the preceding 6 months. On June 27, 2010, the pilot had applied for his commercial pilot certificate and on that application he reported 392.8 hour of total time. The pilot's logbook was not located during the course of the investigation.

AIRCRAFT INFORMATION

The multi-engine airplane, N9DM, serial number 401-0123, was manufactured in 1967. It was powered by two turbo-charged, fuel injected, 300-horsepower, TSIO-520-E engines. Each engine drove a metal, 3-blade propeller. According to the airplane's logbooks, the last annual inspection was accomplished on January 15, 2012, at a Hobbs time of 2,455.5 hours. This inspection had a remark, "heater is inop[erative]." A sales advertisement, dated January 8, 2012, listed the airframe's total time as 4,819 hours. Including the time the pilot flew for his insurance requirements, the airframe had accumulated at least 4,831 hours.

METEOROLOGICAL INFORMATION

At 1652, an automated weather reporting facility located at the Chanute-Martin Johnson Airport (KCNU), Chanute, Kansas, 6 nautical miles east of the accident site, reported wind from 180 degrees at 4 knots, visibility 10 miles, a broken ceiling at 11,000 feet, temperature 21 degrees Celsius (C), dew point 15 C, and a barometric pressure of 30.07 inches of mercury.

COMMUNICATIONS

The pilot was under radar and radio contact with Kansas City Air Route Traffic Control Center (ARTCC) and at 1606 reported that the airplane was level at 10,000 feet. The pilot requested and was approved to proceed direct to CBF. At 1624, the pilot requested a descent from 10,000 to 8,000 to "get out of the clouds and turbulence," which was approved. ARTCC then issued a frequency change which was acknowledged by the pilot. The pilot did not make radio contact with the next controller, and there were no further communications with the pilot. In addition, no distress calls were heard by ARTCC controllers or other pilots on either ARTCC frequency.

WRECKAGE AND IMPACT INFORMATION

The accident site was in a line of trees between a grass field and a corn field. The debris path was aligned along a 277 degree magnetic heading. The first impact point was a narrow ground scar consistent with a wing tip strike. Near the impact point was a portion of the right wing tip. About 88 feet down the wreckage path were two ground scars of varying lengths. No other ground scars were found leading to the main wreckage.

The main wreckage came to reset in a tree line about 162 feet from the initial impact scar, in the upright position, facing east. A post-crash fire had consumed a majority of the fuselage. All of the airframe's flight control surfaces were accounted for at the accident site.

The left wing remained attached to the fuselage. However, just outboard of the engine nacelle, the wing was torn and fragmented. The left engine separated from the nacelle and was located behind the left wing. The right wing remained attached to the fuselage and was crushed rearward and folded along its length. The outboard portion of the wing was bent upward and twisted rearward. The right engine had separated from its nacelle and was located 105 feet west of the main wreckage.

The vertical stabilizer was torn and twisted. The rudder was torn and separated from the vertical stabilizer, but remained attached to the fuselage via the control cables. The vertical stabilizer and elevator had separated from the empennage and were beneath the tail portion of the airplane. Flight control continuity was established to all flight controls.

The flaps were set to 15 degrees. The landing gear was in the retracted position. Portions of acrylic glass from the forward wind screens were found east of the wreckage in an area not exposed to the post-crash fire. These portions of acrylic glass contained soot on the cabin side surface. The cockpit gauges were impact and thermally damaged and did not convey reliable information. Both fuel selector valves were examined and found in the OFF position.

The left propeller had separated from the propeller hub and was found near the right wing. All three blades were relatively straight with one blade bent rearward near its mid-span. All three blades had soil and debris on the blade tips. The right propeller remained attached to the propeller hub. All three blades displayed leading edge polishing and damage near the blade tips. The blades were labeled A, B, and C, for documentation purposes only. Blade A was bent rearward just outboard of the blade root and bent forward near its 2/3 span. Blade B was bent forward towards the cambered side. Blade C was curled towards the cambered side near its mid-span.

MEDICAL AND PATHOLOGICAL INFORMATION

An autopsy was performed on the pilot as authorized by the Wilson County Coroner's Office. The cause of death was a result of thermal injuries. The autopsy found no indication of physical or toxicological impairment.

Forensic toxicology was performed on specimens from the pilot by the FAA Bioaeronautical Sciences Research Laboratory, Oklahoma City, Oklahoma. A reading of 12% carbon monoxide was detected in the pilot's blood. Testing did not detect the presence of cyanide, ethanol, or other tested substances.

TEST AND RESEARCH

Engine runs

Both engines were shipped to Continental Motors Inc., Mobile, Alabama. Under the auspices of the NTSB, the engines were examined and prepped for engine runs. Each engine started and produced rated horsepower. No preimpact anomalies were detected with either engine.

Airplane Heater

The airplane was equipped with a South Wind 8259GL-1 combustion heater, serial number 388, which was last overhauled on February 11, 1994. Airplane logbooks recorded the heater's installation on October 17, 1996, with a heater Hobbs time of 126.4 hours and Airworthiness Directive (AD) 81-09-09 accomplished. A review of the logbook did not find any additional entries for heater Hobbs time or compliance with AD 81-09-09.

On January 6, 2011, an annual inspection was accomplished and the heater was mistakenly identified as a Janitrol heater. This entry listed the heater as inoperative. A work order, dated February 9, 2011, described work performed on the heater: "Troubleshoot cabin heater. Found that cause of no fuel to fuel pump was due to no electrical power to fuel safety valve. Found stuck airflow switch, cleaned and heater operated normally." There was not a log book entry that returned the heater to service. In addition, there was no evidence that a pressure decay test was accomplished. The heater Hobbs was destroyed in the accident and the heater's hours could not be verified.

For insurance purposes, the pilot was required to fly with a certificated flight instructor (CFI) for at least 12 hours to obtain familiarization in the airplane make and model. In a telephone interview with the CFI, he recalled that during a flight on April 25, 2012, the heater's overheat light illuminated shortly after they activated the heater. The heater shut down and no smoke or fumes were detected by the flight crew, so they continued to their destination. At the destination, the CFI demonstrated to the pilot how to reset the circuit breaker. He stated that they performed the return flight without utilizing the heater. Although they flew at least one additional flight on May 2, the CFI did not know any further information about the heater. The pilot's father (a retired airline pilot) had flown with the pilot on May 6, in the accident airplane. He did not recall any placard on the heater and the pilot had not mentioned any problems with the heater to his father. Fire damage to the heater switch area prevented an evaluation of any placards.

Cessna's Model 401 Owner's Manual states that when the overheat warning light is illuminated, the heater overheat switch has been actuated and the temperature of the air in the heater has exceeded 325 degrees Fahrenheit. Once the heater switch is actuated, the heater turns off and cannot be restarted until the overheat switch, located in the right forward nose compartment, has been reset. Prior to having the overheat switch reset, the heater should be thoroughly checked to determine the reason for the malfunction.

There is no record of work being accomplished on the accident airplane after the overheat light had illuminated. Neither of the airplane's home airfield repair shops performed work on the accident airplane. The fixed base operator did not recall seeing any personnel performing work on the airplane in the days preceding the accident.

Cessna's service manual for the Cessna 401 listed the causes of "heater trips over heat switch" as a defective overheat switch or insufficient vent air and a defective duct limit switch. The corrective action is to replace the overheat switch or replace the duct limit switch and increase the air rate, respectively.

South Wind Heater exam

The heater was examined at Cessna Aircraft Company under the auspices of the NTSB and FAA. The heater displayed signatures of thermal damage. When the igniter housing assembly was removed, thermal damage was noted to the ignition unit and spark plug. The spark plug displayed heavy sooting. The heater's shroud was removed and the duct limit switch was found to be misaligned. Discoloration on the switch surface suggested a misalignment prior to heat discoloring the metal. The combustion chamber's interior was heavily sooted and contained several large pieces of carbon deposits and debris. The heater was reassembled with and sealed through the use of a general sealant. Attempts to perform a pressure decay test were unsuccessful. Utilizing a soap and water mixture and pressurization, at least four portions of the combustion chamber displayed signs of leaks. At least three leaks existed on welded joints and one leak around the igniter tip.

Compliance with Airworthiness Directive (AD) 81-09-09

After compliance with AD 81-09-09, the heater is required to be inspected every 250 hours of use and overhauled every 1,000 hours. Unlike comparable combustion heaters, there is no calendar time limits which would require an inspection. If the inspection is not completed or the heater is inoperative, there is no guidance in the AD to disable the heater in a manner that it can no longer be activated in airplane. In contrast, a similar heater's AD requires a visual inspection every 100 hours or 1 year. That AD also provides steps to disable the heater in a manner that it can no longer be used, if the heater fails inspection or as an alternate compliance to the AD.

Accident Rpt# WPR13LA230 05/15/2013 1100	**Regis# N2167J**	**Pine Bluffs, WY**	**Apt: Pine Bluffs Municipal Airport 82V**
Acft Mk/Mdl CESSNA T188C	**Acft SN T18803404T**	**Acft Dmg: SUBSTANTIAL**	**Rpt Status: Prelim Prob Caus: Pending**
Eng Mk/Mdl CONTINENTAL MOTORS TSIO-520-T	**Acft TT 2113**	**Fatal 0 Ser Inj 0**	**Flt Conducted Under: FAR 091**
Opr Name: CIRCLE S AVIATION LLC	**Opr dba:**		**Aircraft Fire: NONE**

Narrative

On May 15, 2013, about 1100 mountain daylight time (MDT), a Cessna T188C, N2167J, was substantially damaged during a precautionary landing shortly after takeoff from Pine Bluffs Municipal Airport (82V), Pine Bluffs, Wyoming. Circle S Aviation, LLC, was operating the airplane under the provisions of 14 Code of Federal Regulations (CFR) Part 91. The commercial pilot was not injured; the airplane sustained substantial damage. The local solo instructional flight had initially departed Pine Bluffs about 0900. Visual meteorological conditions prevailed, and no flight plan had been filed.

The pilot reported that the flight was a solo practice flight in the piston engine agricultural airplane. He reported that after takeoff, as he turned from upwind to crosswind, the engine experienced a partial loss of power. The pilot attempted an off airport landing in an agricultural field; during the roll-out in the field, the main wheels hit a dirt berm and the left main gear separated from the airframe. The left wing subsequently contacted the ground, which resulted in substantial damage to the wing assembly.

Accident Rpt# WPR13LA267	**06/07/2013 1015 PDT**	**Regis# N732BS**	**Chiloquin, OR**	**Apt: Chiloquin State Airport 2S7**
Acft Mk/Mdl CESSNA T210L		**Acft SN 21061392**	**Acft Dmg: SUBSTANTIAL**	**Rpt Status: Prelim Prob Caus: Pending**
Eng Mk/Mdl CONT MOTOR TSIO-520 SER			**Fatal 0 Ser Inj 0**	**Flt Conducted Under: FAR 091**
Opr Name: DEBRA FAITH		**Opr dba:**		**Aircraft Fire: NONE**

Narrative

On June 07, 2013, about 1015 Pacific daylight time, a Cessna T210L, N732BS, veered off the runway surface and came to rest inverted while landing at the Chiloquin State Airport, Chiloquin, Oregon. The pilot, who additionally owned the airplane, was operating it under the provisions of 14 Code of Federal Regulations (CFR) Part 91. The private pilot and passenger sustained minor injuries; the airplane sustained substantial damage. The personal cross-country flight departed from the Benham Airport, Coquille, Oregon, about 0915, with a planned destination of Chiloquin. Visual meteorological conditions prevailed, and no flight plan had been filed.

A witness stated that he observed the airplane touch down on runway 35. He noted that the airplane was landing at a higher-than-expected airspeed, which he estimated to be about 100 miles per hour. Following touchdown, the airplane veered into a gravel area adjacent to the runway and continued until encountering a culvert. The airplane flipped over inverted and came to rest at the edge of the airport's safety perimeter.

Accident Rpt# WPR13LA274 06/16/2013 1140 PDT	**Regis# N94086**	**Fresno, CA**	**Apt: Fresno Yosemite International FAT**	
Acft Mk/Mdl CESSNA T210L	**Acft SN 21060502**	**Acft Dmg: SUBSTANTIAL**	**Rpt Status: Prelim**	**Prob Caus: Pending**
Eng Mk/Mdl CONT MOTOR TSIO-520 SER		**Fatal 0 Ser Inj 0**	**Flt Conducted Under: FAR 091**	
Opr Name: SIMONIAN HAROLD J TRUSTEE	**Opr dba:**		**Aircraft Fire: NONE**	

Narrative

On June 16, 2013, about 1140 Pacific daylight time (PDT), a Cessna T210L, N94086, landed gear-up at Fresno Yosemite International Airport, Fresno, California. The owner/pilot was operating the airplane under the provisions of 14 Code of Federal Regulations (CFR) Part 91. The private pilot and one passenger were not injured; the airplane sustained substantial damage. The local personal flight departed Fowler, California. Visual meteorological conditions prevailed, and no flight plan had been filed.

The pilot reported that he was unable to fully retract the landing gear after takeoff. He was unable to correct the situation and attempted to manually extend the landing gear. That too was unsuccessful and he elected to land with the nose gear partially extended and the main gear retracted. During the landing, the airplane sustained substantial damage to the left wing, left aileron, left horizontal stabilizer, and elevator.

The airplane was recovered for further examination.

Accident Rpt# ANC13CA040	**05/05/2013 1930 ADT**	**Regis# N378X**	**Juneau, AK**	**Apt: Juneau International PAJN**
Acft Mk/Mdl MAULE M-5-210C		**Acft SN 6178C**	**Acft Dmg: SUBSTANTIAL**	**Rpt Status: Factual Prob Caus: Pending**
Eng Mk/Mdl CONT MOTOR IO-360 SER			**Fatal 0 Ser Inj 0**	**Flt Conducted Under: FAR 091**
Opr Name: PENDING		**Opr dba:**		**Aircraft Fire: NONE**

Narrative

The pilot was departing from a dry, paved runway in a tailwheel-equipped airplane, which required a correction for a 5 knot, right crosswind. The pilot said that during the takeoff roll the airplane began to veer to the left, and he applied right rudder to correct the veer, but the airplane subsequently ground-looped to the left. The right main landing gear collapsed, and the right wing and right horizontal stabilizer struck the ground. The airplane sustained substantial damage to the right wing, right horizontal stabilizer and fuselage. The pilot indicated that there were no preaccident mechanical problems with the airplane. The pilot elected not to complete and submit an NTSB form 6120.1 as requested.

Accident Rpt# ERA12LA532	**08/26/2012 1736 EDT**	**Regis# N557M**	**East Hampton, NY**	**Apt: East Hampton Airport HTO**
Acft Mk/Mdl MOONEY M20C		**Acft SN 3175**	**Acft Dmg: SUBSTANTIAL**	**Rpt Status: Factual Prob Caus: Pending**
Eng Mk/Mdl LYCOMING O&VO-360 SER		**Acft TT 3984**	**Fatal 0 Ser Inj 2**	**Flt Conducted Under: FAR 091**
Opr Name: BOCHTER STEVEN R		**Opr dba:**		**Aircraft Fire: GRD**

Narrative

On August 26, 2012, at 1736 eastern daylight time, a Mooney M20C, N557M, registered to a private owner, experienced a total loss of engine power on initial takeoff climb from East Hampton Airport (HTO), East Hampton, New York. During the pilot's attempt to return to the airport he collided with trees. The airplane sustained substantial damage due to impact and postcrash fire. The private pilot and one passenger received serious injuries. The flight was operating as a 14 Code of Federal Regulations Part 91 personal flight. Visual meteorological conditions prevailed and no flight plan was filed.

According to the pilot, after an uneventful preflight inspection, he completed a successful engine start and proceeded to taxi to the departure runway. After completing his engine runup, he departed runway 10. Once airborne the pilot retracted the landing gear and flaps and the engine rpm decreased from 2,750 rpm to 2,400 rpm. The pilot verified the carburetor heat was off, and the throttle, propeller, and mixture controls were full forward. He declared an emergency with East Hampton Control Tower and turned left in an attempt to return to a closed runway. During the turn "the engine became quiet" and the airplane collided with trees.

Examination of the wreckage by a Federal Aviation Administration (FAA) Inspector revealed postcrash fire damage to both wing spars, the right and left horizontal stabilizers, and right and left elevators. The cabin area had been entirely consumed by the postcrash fire. Both wing spars were attached to the fuselage; however, the wing assemblies were located on top of a grassy noel. Continuity of the flight controls was confirmed at the accident scene. The position of the nose landing gear could not be confirmed as it had been obstructed by the engine and cockpit debris. The main landing gear were in the retracted position. The tail section of the airplane was separated from the fuselage. Both horizontal stabilizers and elevators remained attached and were fire damaged. The rudder assembly remained attached to the horizontal stabilizer.

Examination of the engine by an FAA Inspector and a representative of Lycoming Engines confirmed continuity of the crankshaft to the rear gears and to the valve train. Compression was observed at all four cylinders as the crankshaft was rotated. The interiors of the cylinders were examined with a lighted borescope and no anomalies were noted. The propeller blade marked "A" was bent aft about 5 degrees. The propeller blade marked "B" exhibited scuffed paint near the propeller tip and was free to rotate in the hub. The blade marked "C" was bent aft about 100 degrees, about 18 inches outboard of the hub. The blade tip was bent forward and about 1.5 inches of the tip was broken off and not observed. The carburetor was partially disassembled for examination and the float bowl displayed signs of fire distortion. The carburetor floats were destroyed by fire and the bowl parting surface gasket was partially burned. No fuel was observed in the carburetor. The engine fuel system hoses were fire damaged. The carburetor fuel inlet screen was fire damaged and no debris was observed within the screen. The magnetos, which were fire damaged, remained attached to the engine and could not be operated. The engine driven fuel pump also remained attached to the engine and was partially consumed in the fire. A review of the oil system revealed that the oil filter media was charred but no debris was noted between the folds of the media. The oil cooler was partially separated from the engine and was fire damaged. Oil was observed in the engine.

According to Federal Aviation Administration (FAA) records, the pilot held a private pilot certificate with a single engine land rating. The pilot's most recent FAA third-class medical certificate was issued on June 30, 2012. The pilot reported 1,200 total hours of flight experience with over 330 hours in the M20C.

The single-engine airplane, was powered by a Lycoming O-360-A1D, serial number L-8683-36A, 180-horsepower engine. An annual inspection was completed on March 1, 2012 at 3,984 total aircraft hours. Total time since field overhaul was 622 hours.

At 1735, the weather observation at HTO, included wind from 160 degrees at 10 knots, 10 miles visibility, and scattered clouds at 1,500 feet. The temperature was 23 degrees C, the dew point was 17 degrees C, and the altimeter setting was 30.29 inches of mercury.

Review of the FAA carburetor icing probability chart showed that conditions at the time of the accident were conducive to light carburetor icing at cruise and glide power.

Accident Rpt# CEN13FA351	**06/15/2013 1828 CDT**	**Regis# N8815P**	**La Pointe, WI**	**Apt: Major Gilbert Field Airport 4R5**
Acft Mk/Mdl PIPER PA-24-260		**Acft SN 24-4270**	**Acft Dmg: DESTROYED**	**Rpt Status: Prelim Prob Caus: Pending**
Eng Mk/Mdl LYCOMING TIO-540			**Fatal 2 Ser Inj 0**	**Flt Conducted Under: FAR 091**
Opr Name: 8815 PAPA LLC		**Opr dba:**		**Aircraft Fire: GRD**

Narrative

On June 15, 2013, about 1828 central daylight time, a Piper PA-24-260 airplane, N8815P, impacted trees and terrain during a go-around from runway 22 at the Major Gilbert Field Airport (4R5), near La Pointe, Wisconsin. A post impact ground fire occurred. The pilot and pilot rated passenger were fatally injured. The airplane was destroyed during the impact and ground fire. The airplane was registered to and was operated by 8815 Papa LLC under the provisions of 14 Code of Federal Regulations Part 91 as a personal flight. Day visual flight rules conditions (VFR) conditions prevailed for the flight, which did not operate on a VFR flight plan. The flight originated from the John F Kennedy Memorial Airport (ASX), near Ashland, Wisconsin, at time unknown.

The airplane was based at the La Crosse Municipal Airport (LSE), near La Crosse, Wisconsin. According to initial information from the Federal Aviation Administration (FAA), the airplane departed from LSE at 1102. An entry in an airport visitor's log at ASX showed that the pilot signed in on June 15, 2013, at time unknown. The entry showed that the flight was a recreational flight, which departed from LSE with two occupants on board. That entry did not have a destination listed. Airport fueling records at ASX were reviewed and no fuel services were rendered to the pilot representing N8815P.

A witness at 4R5 stated that he heard an airplane engine, heard "squealing," and heard sounds like screeching tires. He looked at the runway and saw the airplane bouncing "out of control" on the runway. It appeared that the airplane flew in from the north east and was attempting to land. The airplane subsequently "went to full throttle" and pitched up to about 45 degrees where it started climbing. The witness saw the airplane fly to the right and he thought it was going to circle around to attempt another landing. He turned around and subsequently heard an explosion. He looked back, saw a plume of black smoke, and called 911.

The pilot held a private pilot certificate, with an airplane single engine land and instrument airplane ratings. The pilot's most recent FAA third-class medical certificate was issued on June 29, 2012. The pilot's medical certificate had a limitation for corrective lenses. He reported that he had accumulated 1500 hours of total flight time at the time of the application for that medical certificate and that he had accumulated 50 hours of flight time during the six months prior to that application.

The pilot rated passenger held a private pilot certificate with a single engine land rating. His most recent FAA third-class medical certificate was issued on June 6, 2006. His medical certificate had a limitation for corrective lenses for near vision. He reported that he had accumulated 280 hours of total flight time at the time of the application for that medical certificate and that he had accumulated 8 hours of flight time during the six months prior to that application.

N8815P, a 1965-model Piper PA-24-260 Comanche, with serial number 24-4270, was a low wing, single-engine, four-place monoplane, which had retractable tricycle landing gear. The airplane was constructed predominately of aluminum alloy materials. The airplane was powered by a Lycoming O-540, six-cylinder, reciprocating engine, marked with serial number L-2144-48. The engine drove a Hartzell, 3-bladed, all-metal, constant-speed propeller. The propeller was installed in accordance with supplemental type certificated SA288CH and was approved on major repair and alteration form dated October 14, 1997.

At 1753, the recorded weather at ASX, located about 16 nautical miles and 205 degrees from the accident site, was: wind calm; visibility 10 statute miles; sky condition few clouds at 2,200 feet; temperature 21 degrees C; dew point 18 degrees C; altimeter 29.85 inches of mercury.
At 1833, the recorded weather at 4R5 was: temperature 62.5 degrees F; dew point 58.0 degrees F; altimeter 29.81 inches of mercury; wind south southwest at 3.0 mph; humidity 84 percent.

The airplane impacted a wooded area about one-half nautical mile southwest of runway 22's threshold. Tree branches were broken in a linear path and that path downward through the trees was nearly vertical to where the airplane came to rest. The airplane came to rest inverted on a heading of about 40 degrees magnetic. The nose landing gear strut, its fork, and its tire and an outboard section of the right wing were found separated from the airplane. All major components of the airplane were accounted for at the accident site.

An on-scene examination of the wreckage was conducted. The center portion of the fuselage was melted, consumed, and deformed consistent with a ground fire. First responders cut control cables and marked them. All flight control cables were traced and flight control continuity was established. The throttle,

propeller, and mixture controls were found in their forward position. The engine sump was melted. Engine control cables were connected to their respective throttle and mixture controls on the fuel servo and the propeller control cable was attached to its governor. The flap jackscrew measurement was consistent with a 10-degree flap extended setting. The landing gear cable extension measurements were consistent with extended landing gear. One landing gear tire was melted and the other two landing gear tires did not exhibit any abrasions or flat spots. The magnetos and vacuum pump were melted and deformed. The propeller hub was attached to the engine and all three propeller blades exhibited ground tips consistent with contact with the runway. Due to impact and fire damage, the total fuel quantity on board the airplane at the time of the accident could not be confirmed.

Runway 22 was examined. The surface of the runway, about one tenth of a nautical mile from the start of its threshold, exhibited witness slash marks consistent with contact with the propeller. The path of the witness marks proceeded down the runway just left of centerline and the marks migrated to the right. A white colored media transfer was also found on the runway. The media transfer path approximated the path of the slash marks. There were no trails of landing gear tire witness marks associated with the path of the slash marks and media transfer marks.

Accident Rpt# CEN13FA030 10/24/2012 2040 CDT	**Regis# N55620**	**Maryland Height, MO**	
Acft Mk/Mdl PIPER PA-28-140	**Acft SN 28-7325445**	**Acft Dmg: SUBSTANTIAL**	**Rpt Status: Factual Prob Caus: Pending**
Eng Mk/Mdl LYCOMING O-320 SERIES	**Acft TT 2491**	**Fatal 2 Ser Inj 0**	**Flt Conducted Under: FAR 091**
Opr Name: HAZELTON RUSSELL C	**Opr dba:**		**Aircraft Fire: NONE**

Summary

As the airplane was approaching the destination airport for a night landing, a witness saw the airplane maneuvering as it passed overhead. She also remarked that the engine sounded like it was sputtering and thought that the pilot was attempting to land the airplane on the beach of a nearby lake. The airplane impacted the water and cartwheeled before sinking. A test run of the engine was conducted; the engine started and ran at various power settings. An examination of the airplane and engine revealed no preimpact anomalies that would have precluded normal operation. The temperature and dew point about the time of the accident indicated that the airplane was operating in conditions that were conducive to serious icing at glide power. The pilot was in an extended descent and most likely had the power on the engine reduced for the descent. Although the carburetor heat was found on it is unknown when the pilot activated the carburetor heat. The engine controls were in positions consistent with an attempt to restart the engine; it is likely that the loss of engine power was due to carburetor ice and that the carburetor heat was not activated until after the engine began to lose power.

Cause Narrative

THE NATIONAL TRANSPORTATION SAFETY BOARD DETERMINED THAT THE CAUSE OF THIS OCCURRENCE WAS: The pilot's failure to activate the carburetor heat while operating in conditions conducive to carburetor icing, which resulted in a loss of engine power due to carburetor ice.

Events

1. Approach - Loss of engine power (partial)
2. Approach - Fuel related
3. Emergency descent - Off-field or emergency landing

Findings - Cause/Factor

1. Environmental issues-Conditions/weather/phenomena-Temp/humidity/pressure-Conducive to carburetor icing-Effect on equipment - C

Narrative

HISTORY OF FLIGHT

On October 24, 2012, about 2040 central daylight time, a Piper PA-28-140, N55620, was substantially damaged when it impacted Creve Coeur Lake, near Maryland Heights, Missouri. The airline transport certificated pilot and passenger were fatally injured. The airplane was registered to and operated by a private individual under the provisions of 14 Code of Federal Regulations Part 91 as a personal flight. Night visual meteorological conditions prevailed for the flight, which operated on a visual flight rules flight plan. The flight originated from Delaware, Ohio, and was en route to Creve Coeur Airport (K1H0), St. Louis, Missouri.

According to a Federal Aviation Administration (FAA) inspector, the flight had departed Factoryville, Pennsylvania, the day of the accident and stopped in Delaware, Ohio, for fuel.

At 1952, the pilot contacted the St. Louis Lambert terminal radar approach control facility and reported his altitude as 4,500 feet. At 2007, the pilot requested clearance through class bravo (B) airspace, en route to Creve Coeur airport. The controller provided a clearance via the Cardinal VOR and was ultimately cleared to descend to and then below 2,200 feet. The pilot acknowledged these clearances. At 2037, the pilot was cleared to change to the advisory frequency for the Creve Coeur airport and acknowledged that transmission. No other communications were recorded between air traffic control and the pilot.

A witness located on the northeast side of the lake reported that she heard the airplane fly overhead and stated that it sounded low. The airplane approached her position from the east. She stated that the airplane turned to the south and then back to the east as it passed overhead. She also remarked that the engine sounded like it was sputtering. She thought that the pilot was attempting to land the airplane on the beach of Creve Coeur Lake. She then saw the airplane impact the water and cartwheel before sinking.

First responders reported that the airplane was submerged in five feet of water and came to rest inverted.

PERSONNEL INFORMATION

The pilot, age 78, held an airline transport pilot certificate with a multiengine land rating and 14 different type ratings. In addition, the pilot held a commercial pilot certificate with single engine land and sea ratings and five different type ratings. He was issued a third class airman medical certificate on July 13, 2011. The certificate contained the limitation "must wear corrective lenses. Not valid for any class after July 31, 2013."

The pilot's personal flight logbook was not located. According to his last airman medical certificate application dated July 13, 2011, he had logged no less than 27,000 hours flight time, five of which had been logged in the previous six months.

AIRCRAFT INFORMATION

The accident airplane, a Piper PA28-140 (serial number 28-7325445), was manufactured in 1973. It was registered with the FAA on a standard airworthiness certificate for normal operations. A Lycoming O-320-E3D engine rated at 150 horsepower at 2,700 rpm powered the airplane. The engine was equipped with a fixed pitch, two-blade metal propeller.

The airplane was maintained under an annual inspection program. A review of the maintenance records indicated that an annual inspection had been completed on October 19, 2012, at an airframe total time of 2,481.5 hours. The airplane had flown approximately 9.3 hours between the last inspection and the accident and had a total airframe time of 2,490.78 hours.

METEOROLOGICAL INFORMATION

The closest official weather observation station was at Lambert-St. Louis International Airport (KSTL), St. Louis, Missouri, located 7 nautical miles (nm) east of the accident site. The elevation of the weather observation station was 618 feet mean sea level. The routine aviation weather report (METAR) for KSTL, issued at 2051, reported, wind from 160 degrees at 8 knots, visibility 10 miles, sky condition broken 2,500 feet, temperature 24 degrees Celsius (C), dew point temperature 16 degrees C, and altimeter 29.89 inches.

According to the United States Naval Observatory, Astronomical Applications Department Sun and Moon Data, the sunset was recorded at 1810 and the end of civil twilight was 1837. The Moon rose at 1523, and set at 0320 on the following day. The Moon was waxing gibbous with 76% of the Moon's visible disk illuminated.

A review of the carburetor icing probability chart, located in the FAA's Special Airworthiness Information Bulletin CE-09-35, dated 6/30/2009, revealed that the airplane was operating in conditions favorable for the formation of "serious icing at glide power."

WRECKAGE AND IMPACT INFORMATION

The airplane came to rest inverted in Creve Coeur Lake in approximately 5 feet of water, at an elevation of 470 feet. The nose of the airplane was oriented on an approximate heading of south. The main wreckage included the left and right wings, empennage, fuselage, and engine and propeller assembly.

Rescue crews hooked on to the empennage of the airplane and pulled it towards shore in order to aid in recovery of the victims. The damage to the empennage was a result of recovery and not a result of the accident sequence.

The fuselage included two front seats, the instrument panel, forward and two side windscreens, and the main cabin door. The main cabin door remained attached to the fuselage and had been bent during the recovery process. The right forward seat was forward in the seat track, the seatbelt was unlatched, and shoulder harness had been cut during the rescue process. The left forward seat was aft in the seat track and the seatbelt and shoulder harness were unlatched. The fuselage was otherwise unremarkable.

The following engine and airplane control positions were recorded:
Throttle - Full forward
Mixture - Full rich
Carburetor Heat - On
Fuel Selector Valve - Right Tank

The engine and propeller assembly remained attached to the fuselage. The cowling was bent. Dirt, rocks, and vegetation were impacted between the propeller spinner and the propeller flange. Both propeller blades remained attached to the engine and were covered with dirt and rocks. Approximately 2 tablespoons of water were drained from the gascolator on the engine. The engine oil measured over 8 quarts on the engine oil dipstick and was consistent in texture and color with recently changed oil. The propeller and engine were otherwise unremarkable.

The right wing included the right aileron, right flap, and right landing gear assembly. The right flap was extended to the second "notch." The right aileron flight control cables remained attached and were continuous and correct from the right aileron inboard to both flight control yokes in the cabin. The wing and wheel pant were otherwise unremarkable. Two gallons of water were drained from the right wing fuel tank. A thin film ¬ inch deep, of a blue liquid, consistent in smell and color with aviation fuel, layered on top of the two gallons of water.

The left wing included the left aileron, left flap, and left landing gear assembly. The left flap was extended to the second "notch." The left aileron flight control cables remained attached and were continuous and correct from the left aileron inboard to both flight control yokes in the cabin. Approximately 90 inches of the outboard, leading edge of the left wing was crushed down, aft, and twisted. The inboard portion of the left wing was unremarkable. The forward portion of the left landing gear wheel pant was broken. Two and a half gallons of water were drained from the left wing fuel tank. A thin film of a blue liquid, ¬ inch deep, consistent in smell and color with aviation fuel, was layered on top of the two and a half gallons of water.

The empennage was bent and twisted; however, the damage was incurred during the recovery of the airplane from the water. Prior to recovery the empennage was unremarkable. The flight control cables for the rudder and stabilator were continuous and correct from the respective flight control forward to the flight control yokes and rudder pedals in the cabin of the airplane. No preimpact anomalies were found with the airframe.

MEDICAL AND PATHOLOGICAL INFORMATION

The autopsy was performed by the Saint Louis County Health - Office of the Medical Examiner, on October 25, 2012. The autopsy on the pilot concluded that the cause of death was anoxic brain injury due to drowning.

The FAA's Civil Aerospace Medical Institute, Oklahoma City, Oklahoma, performed toxicological tests on specimens that were collected during the autopsy (CAMI Reference #201200240001). Results were negative for all carbon monoxide, cyanide, and volatiles. Testing of the blood and muscle revealed atropine. Atropine is an acetylcholine muscarinic receptor antagonist often used in emergency resuscitation efforts.

TESTS AND RESEARCH

The airplane was recovered to a secure facility near Wright City, Missouri, for further examination of the engine.

The upper and lower banks of sparkplugs were removed from all four cylinders. The sparkplugs were wet with water and several were white in color consistent with a lean fuel situation. The oil sump was drained revealing both water and oil. The fuel gascolator was removed and was full of water. The screen was free of debris. The filter on the electric fuel pump was free of contamination and blockage and odor from the fluid inside the fuel pump smelled consistent with fuel. Water was drained from the cylinders and throughout the exhaust system. Borescope examination of the cylinders revealed signs of normal operation. Both magnetos were removed, placed on a test bench, and functionally tested. Once the magnetos were dry, they produced a blue spark across each lead.

The engine and airframe were tied to a trailer for the testing purposes. The magnetos were reinstalled, the engine was timed, and attached to an external fuel and power source. The engine started without hesitation and ran at varying power settings for 10 minutes. A maximum level of 1,900 rpm was reached. The engine throttle was not advanced to full rpm position because of the potential for unseen damage to the propeller and propeller flange. No preimpact anomalies were found with the engine.

Accident Rpt# ERA13CA260	**05/30/2013 1030 EDT**	**Regis# N5715F**	**Ellenville, NY**	**Apt: Joseph Y Resnick Airport N89**
Acft Mk/Mdl PIPER PA-28-140		**Acft SN 28-24927**	**Acft Dmg: SUBSTANTIAL**	**Rpt Status: Factual Prob Caus: Pending**
Eng Mk/Mdl LYCOMING O-320 SERIES		**Acft TT 4301**	**Fatal 0 Ser Inj 0**	**Flt Conducted Under: FAR 091**
Opr Name: TAKE FLIGHT AVIATION LLC		**Opr dba:**		**Aircraft Fire: NONE**
				AW Cert: STN

Narrative

The student pilot reported that she was returning to her home airport after being discontinued from her private pilot practical test. Upon departure and initial climb, she maneuvered the airplane into a valley and proceeded to attempt a climb over a ridge that was approximately 1,500 feet higher than the departure airport elevation. The student pilot stated that she knew as soon as she flew into the valley, the airplane was not going to be able to climb over the ridge, and that she was unable to turn the airplane around. She added that she performed a "controlled" crash into the trees. Examination of the airplane revealed substantial damage to the fuselage and to both wings. The student pilot reported no preaccident mechanical malfunctions or failures with the airplane that would have precluded normal operation.

Accident Rpt# ERA13LA197	**04/07/2013 1540 EDT**	**Regis# N3060B**	**Winston Salem, NC**	**Apt: Smith Reynolds Airport INT**
Acft Mk/Mdl PIPER PA-28-181		**Acft SN 28-7990139**	**Acft Dmg: SUBSTANTIAL**	**Rpt Status: Factual Prob Caus: Pending**
Eng Mk/Mdl LYCOMING O-360		**Acft TT 6813**	**Fatal 0 Ser Inj 0**	**Flt Conducted Under: FAR 091**
Opr Name: TRIAD AIR INC		**Opr dba: PIEDMONT FLIGHT TRAINING**		**Aircraft Fire: NONE**

Narrative

On April 7, 2013, about 1540 eastern daylight time, a Piper PA-28-181, N3060B, operated by Piedmont Flight Training, was substantially damaged when the right main landing gear collapsed during rollout at Smith Reynolds Airport (INT), Winston Salem, North Carolina. The private pilot and flight instructor were not injured. The instructional 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 flight that departed Asheville Regional Airport (AVL), Asheville, North Carolina, about 1430.

The private pilot reported that after an uneventful cross-country flight, the airplane was landing on runway 22 at INT. The touchdown was normal; however, the right main landing gear collapsed during rollout and the airplane came to rest on the runway.

The operator reported that during the accident landing, the airplane left approximately 850 feet of skid marks on the runway from the right main landing gear tire, with no corresponding skid marks from the left main landing gear tire. An additional 435 feet of scrape marks continued beyond the 850-foot skid marks, consistent with the collapse of the right main landing gear.

Examination of the airplane by a Federal Aviation Administration (FAA) inspector revealed substantial damage to the right wing. The right main landing gear trunion was forwarded to the NTSB Materials Laboratory, Washington, DC, for further examination.

The trunion attached to the wing via four bolts through an upper flange and four bolts through a lower flange. Metallurgical examination revealed extensive wear, fretting, hole elongation, and disturbed metal around the holes of the lower flange. The wear was more pronounced at the two most outboard holes of the lower flange. Additionally, two bolt heads were recovered and exhibited white paint, consistent with their preimpact location being from the lower flange. The fracture surfaces of both bolt heads exhibited fatigue. The bolt fatigue in conjunction with the excessive wear and damage at the lower flange attachment bolt holes was consistent with bolt looseness and wear over a period of time.

Review of NTSB Materials Laboratory records did not reveal any similar events within the past 10 years.

According to a representative from the airplane manufacturer, he had seen similar events in the past and such wear usually involved airplanes used for student pilot training. The airplanes would suffer an initiating hard landing that was not reported by the student pilot. The damage could then propagate over time, but it was difficult to tell if the initiating hard landing occurred months or years prior to the actual landing gear failure; however, it was also common practice for mechanics to check the bolts during annual and 100-hour inspections. Specifically, they usually checked for condition and security by verifying the proper exposed thread count and that the cotter pins were in place.

Review of the make and model airplane maintenance manual for 100-hour inspections revealed, "16. Inspect gear struts and mounting bolts for condition and security."

The airplane's most recent annual inspection was completed on January 11, 2013. At that time, the airplane had accrued 6,762 total hours of operation. The airplane accumulated an additional 51 hours of operation, from the time of the most recent annual inspection, until the accident. According to an FAA inspector, the operator did not employ mechanics, but rather contracted mechanics when maintenance was required. During interviews, the two mechanics that performed the most recent annual inspection stated that the bolts were visually inspected and attempts were made to check retention and security of the hardware with tools; however, the nuts were in an area that was difficult to access with tools.

The recorded wind at INT, at 1554, was from 200 degrees at 10 knots, gusting to 17 knots, and varying between 150 degrees and 230 degrees.

Accident Rpt# WPR10FA217	**04/27/2010 1135 PDT**	**Regis# N847DE**	**Merced, CA**	**Apt: Merced Regional/macready Field MCE**
Acft Mk/Mdl PIPER PA-30		**Acft SN 30-1634**	**Acft Dmg: SUBSTANTIAL**	**Rpt Status: Factual Prob Caus: Pending**
Eng Mk/Mdl LYCOMING IO-320		**Acft TT 2544**	**Fatal 1 Ser Inj 0**	**Flt Conducted Under: FAR 091**
Opr Name: DWIGHT M EWING		**Opr dba:**		**Aircraft Fire: NONE**
				AW Cert: STN

Narrative

HISTORY OF FLIGHT

On April 27, 2010, at 1135 Pacific daylight time, a Piper PA-30, N847DE, collided with a highway embankment in Merced, California. The pilot was operating the airplane under the provisions of Title 14 Code of Federal Regulations Part 91. The private pilot/owner sustained fatal injuries. The airplane sustained substantial damage to both wings and the forward fuselage. The local personal flight departed Merced Regional Airport/Macready Field at 1127. Visual meteorological conditions prevailed, and no flight plan had been filed.

The pilot was a property appraiser, and the purpose of the flight was to overfly land east of Merced in order to perform an aerial property observation.

On the morning of the accident, an employee from a local Fixed Base Operator (FBO) assisted the pilot with moving the airplane out of his hangar. The pilot asked for assistance starting the motor of the hand operated tug, because he was unable to muster the strength to pull the starter cord fast enough. The pilot then attempted to move the airplane utilizing the tug, but stated that he was experiencing problems with his hands, and again asked for assistance. According to the witness, once out of the hangar, the pilot appeared pale and listless, and lost his footing as he got into the airplane. On three occasions, he called the FBO employee by the wrong name, even though he had known him for many years.

Video of the airplane's departure, captured by Merced Airport security cameras, revealed that it entered runway 30 at the threshold, and immediately began the takeoff roll. The airplane rotated about 2,200 feet further down the runway, initiated a climb utilizing the full runway length, and then turned left where it joined the downwind leg to the east.

A few minutes later, an airport operations employee heard a weak and broken transmission over the airport's common traffic advisory frequency stating, "...try...make right base...all kinds of trouble/problems in the cockpit...I will try to make it back to Merced Airport...I am following Childs Ave..."

A witness, located in a restaurant parking lot 3 miles east of the airport, observed an airplane fly directly over his position and to the west. The airplane was flying straight and level just below the top of an elevated restaurant sign. He described the airplane engine's sound as, "full blown, similar to three Harley's driving by." The airplane then clipped the top of a tree, and continued out of his view. He did not observe any smoke or vapors trailing the airplane at any time, and noted that the landing gear appeared to be retracted.

Another witness, who was driving on the southbound lane of Highway 99, 3 miles east of the airport, noticed what he initially thought was a crop dusting airplane about 50 yards to his left, just above the highway. The airplane passed directly in front of his vehicle from left to right and collided with the highway embankment.

Merced Airport was equipped with an airport surveillance radar system located on the eastern edge of the airport perimeter. Recorded radar track data provided by the FAA, revealed a target set to a 1200 beacon code beginning a ground roll at 1127 on runway 30. The target continued on a northwest heading, reaching an altitude of about 150 feet above ground level (agl), after travelling the full length of the 5,914-feet-long runway. The target initiated a climbing left turn, where it joined the downwind leg at an elevation of about 600 feet agl. The target continued the downwind climb, leveling off at 1,200 feet agl, about 0.5 miles south of the arrival end of runway 30. The target then turned towards the east, while maintaining altitude, and accelerating from a ground speed of 130 to 170 knots. About 6 miles east, the target initiated a 60-second-long descent to 800 feet agl. Over the course of the next 24 seconds, the target began a descending 180-degree left turn to 600 feet agl. The turn radius was about 1,250 feet, and the target reached a ground speed of about 210 knots, 12 seconds after rolling out of the turn. The target continued to descend, with an accompanying reduction in airspeed, before leveling off at 50 feet agl, about 1 mile east of the accident site. The last recorded target was at that same altitude, and just east of the accident site. At that time, the target was travelling at a groundspeed of 100 knots.

PERSONNEL

A review of Federal Aviation Administration (FAA) airman records revealed that the 88-year-old pilot held a private pilot certificate with ratings for airplane single-engine land, multiengine land, instrument airplane, and glider. He held a third-class medical certificate issued in June 2009, with the limitation that he must have glasses available for near vision.

Complete pilot flight records were not recovered. A pilot flight logbook was located, indicating that his first entry occurred in 1943. His last logbook spanned the period from 1992 to April 26, 2010, contained 12 entries, and referenced a total flight time in 1992 of 8,200 hours. On the pilot's most recent application for a medical certificate, he indicated a total flight time of 9,805 hours, with 6 hours in the 6 months preceding the application. According to the certified flight instructor (CFI) who performed his most recent flight review, the pilot did not keep a record of all flight time, but rather a log of all flights required to meet regulatory requirements.

The pilot completed a flight review in the airplane the day prior to the accident. The CFI who performed the review stated he generally flies with the pilot on a monthly basis, and this was their third consecutive flight review together. He reported that the pilot was required by his insurance company to take a flight review annually. The original review was scheduled to take place in the accident airplane 1 month prior, but was postponed due to mechanical problems with an engine magneto and tachometer. At that time, they elected to complete the ground portion of the review instead. The CFI noted on the day of the flight portion of the review, the pilot appeared to have lost weight. He further noted that there was a degradation in his performance since their flight review the year prior. He appeared to perform the preflight inspection at a much slower pace, and was unable to start the airplane tug using the starter pull cord. During the engine magneto check, he became confused, and audibly indicated that he was checking the right magnetos on the right engine, when in actuality he checked the left magneto on the left engine. During the initial engine run-up, the airplane crept forward, and the pilot was unable to maintain enough pressure on the brake pedals to stop the movement. He insisted that there was a deficiency with the brakes, so they swapped seats. The CFI subsequently applied brake pressure and was able to easily stop the airplane. Additionally, just prior to takeoff, the pilot audibly called to turn on the auxiliary fuel pumps, but inadvertently turned on the landing lights.

For the remainder of the review, the pilot's performance appeared to improve, and was "adequate" according to the CFI. They performed multiple takeoff and landings at two other airports, and during the return flight, the CFI simulated an engine failure by setting an engine to zero thrust. He stated that the pilot handled the event in an adequate manner, although not entirely to his liking. He rated the pilot's overall flight skills as acceptable, and commented that he was often stubborn, and would have his own procedures, which while technically correct, did not meet the CFI's personal standards. He stated that the pilot would often resist the CFI's advice for altering his techniques and procedures.

The CFI stated that the airplane performed in a smooth and flawless manner for the review flight, he specifically recalled that both he and the pilot agreed that the airplane was, "running like a top."

Family members and business associates of the pilot reported that on the morning of the accident, he appeared in good spirits with no indications of unusual behavior. They all recounted similar observations of degradation in his general performance over the last year, reporting that during the period he exhibited increasing fatigue, and complaints about inflammation and pain in his hands and arms.

AIRPLANE INFORMATION

The multiengine airplane, serial number 30-1634, was manufactured in 1967, and equipped with two Lycoming fuel injected IO-320-B1A engines.

The most recent annual inspection was completed 17 days prior to the accident. At that time, the airframe had accrued a total of 2,543.99 flight hours. The right engine had accumulated 473.5 hours since overhaul, and the left engine 475.45 hours. Both engines were overhauled in 1990.

METEOROLOGICAL

The closest aviation weather observation station was located at Merced Airport. The elevation of the weather observation station was 155 feet mean sea level (msl). An aviation routine weather report was recorded at 1153 PDT. It reported: wind from 240 degrees at 6 knots; visibility 10 miles; skies few clouds at 5,000 feet, 6,500 feet overcast; temperature 19 degrees C; dew point 07 degrees C; altimeter 29.90 inches of mercury.

WRECKAGE AND IMPACT INFORMATION

The first identified point of impact was characterized by a flat, horizontal swath cut through the branches at the top of a 60-foot-tall tree, about 3 miles east of the airport. Fragments of freshly cut branches were observed at the base of the tree. The next point of impact consisted of a wood communications pole, severed at about the 60-foot-level, 120 feet beyond the tree. A 5-feet-long section of the pole was located about 30 feet west of the base. The fractured section exhibited slash markings, and fragments of light green paint, similar in color to the internal painted surfaces of the airplanes wing structure.

The main wreckage was located about 600 feet west of the initial point of impact. The airplane came to rest on the highway embankment, 2.7 miles east-northeast of the arrival end of runway 30, at an elevation of about 170 feet msl. The pitch of the embankment was about 40 degrees, as it rose to an exit ramp; the airplane was positioned facing uphill, on a heading of about 210 degrees magnetic.

The main cabin remained intact, and sustained crush damage to the nose cone. The tail cone had become separated aft of the cabin, with the empennage still attached and intact. The right wing sustained two semi-circular shaped indentations along its leading edge. One indentation was observed at the center wing section, between the main cabin and the right engine; the size of the indentation corresponded to the radial dimensions of the wood communications pole. The left wing sustained crush damage along its entire leading edge. The outboard wing had become folded aft, the left engine remained attached to the firewall. The engine and firewall had become separated from the spar, and were located underneath the wing.

All four wing fuel tanks contained fuel up to their respective filler necks. The tanks were not breached, and no indication of fire was present. The fuel selector valves for the left and right engine were set to the main tanks. The master switch, and all four magneto switches were set to the on position, and both auxiliary fuel pump switches were in the off position. The throttle, propeller, and mixture cables for both engines were in the full forward position. Both the landing gear and the flaps appeared in the retracted position. All sections of the airplane were accounted for at the accident site.

MEDICAL AND PATHOLOGICAL INFORMATION

Autopsy and Toxicological Results

An autopsy was conducted by the Merced County Sheriff's Office-Coroner Division. The cause of death was reported as the effect of blunt force trauma.

Additionally, the autopsy found metastatic prostate carcinoma, with an enlarged multinodular prostate, periaortic lymphadenopathy, mediastinal adenopathy with compression of right subclavian vein and thrombus, and lung and bone metastases.

Toxicological tests on specimens recovered from the pilot by the Coroner's Office were performed by the FAA Civil Aerospace Medical Institute. Analysis revealed no carbon monoxide, cyanide, or ingested alcohol. The results were negative for all screened drug substances except Quinine, which was detected in urine.

Refer to the toxicology report included in the public docket for specific test parameters and results.

Medical History

The NTSB Chief Medical Officer reviewed the pilot's FAA and personal medical records.

FAA pilot medical records dating back to 1965 revealed that the only significant medical issue ever reported by the pilot was a fall from a horse in 1999, which resulted in several broken ribs. On his last application for a medical certificate, he indicated "no" to every question regarding medical diagnosis and the use of medications; reporting only a visit to the primary physician for "general health."

Review of the pilot's personal physician records from 2004 revealed a diagnosis of advanced metastatic prostate cancer in 2005 with involvement of lymph nodes and bone. He was initially treated, and had resolution of symptoms and normalization of his prostate specific antigen (PSA). By 2007, non-insulin dependent diabetes was diagnosed, and initially treated with dietary measures; later, diabetic medications were added. In the latter half of 2008, his prostate cancer numbers began to rise, and several other methods were attempted to treat his cancer with mixed success. In the last few months of his life, the pilot's cancer was resurgent; his PSA had risen precipitously, and he developed pain and swelling of his hand due to cancerous lymph nodes in his chest obstructing venous flow.

Postaccident Medical Records

Mercy Medical Center of Merced provided treatment to the pilot following the accident. Medical records indicated that following the accident, bystanders reported to emergency medical services personnel, that the pilot was speaking or moaning after the crash. However, EMS found the pilot in cardiac arrest when they arrived, 3 minutes after the initial dispatch from 911. They initiated CPR (cardiopulmonary resuscitation), extricated him from the airplane, and transported him to Mercy Medical Center. Hospital staff attempted to revive him, with at least one period where a pulse returned. He was subsequently intubated, received medications consistent with advanced cardiac life support and CPR, but was declared dead approximately 1 hour 20 minutes after arrival to the hospital. About 1700 ml of serosanguinous fluid was removed from his chest cavity during his resuscitation attempt. On arrival, his laboratory values indicated hyperglycemia (high blood sugar; 343 mg/dl; normal is 60-120) and an anion gap of 17 (normal up to 16) with bicarbonate of 19 mmol (normal range 22-28 mmol).

TESTS AND RESEARCH

Airframe and Engines

The airframe and engines were recovered from the accident site, and examined at a remote storage location. No anomalies were noted that would have precluded normal operation; a complete examination report is contained within the public docket.

Recording Devices

The airplane was equipped with both a Garmin GPSMap 296, and GPSMap 496 global position system (GPS) receiver. Extraction of the recorded flight track data revealed that neither receiver had been turned on during the accident flight, and no track data was recorded.

The airplane was additionally equipped with two Electronics International, exhaust and cylinder head temperature monitors. The units were sent to the NTSB Vehicle Recorder Division for data extraction. Examination revealed that one unit had been configured with data recording disabled, and as such, no historical data was recovered. The second unit was correctly configured, however, no valid data from the accident flight was found in the unit's memory. A complete examination report is contained within the public docket.

Airplane Performance

The airplane's take-off ground run distance was calculated utilizing a gross weight of 3,200 pounds, and the prevailing weather conditions. With a flap setting of 15 degrees, and a liftoff speed of 80 mph, the airplane's ground run distance should have been about 1,050 feet.

Accident Rpt# WPR13CA245 05/28/2013 1605	**Regis# N969BD**	**Page, AZ**	**Apt: Page Municipal Airport KPGA**
Acft Mk/Mdl PIPER PA-31-350	**Acft SN 31-8152109**	**Acft Dmg: SUBSTANTIAL**	**Rpt Status: Factual Prob Caus: Pending**
Eng Mk/Mdl LYCOMING TIO-540 SER	**Acft TT 8542**	**Fatal 0 Ser Inj 0**	**Flt Conducted Under: FAR 091**
Opr Name: SEFTON DONALD H	**Opr dba:**		**Aircraft Fire: NONE**

Narrative

The pilot stated that he and four passengers were about 4.5 hours into the flight, and about 10 nm from their destination, when the left low boost light illuminated. About 20 seconds later the left engine quit, and the pilot feathered the propeller. After about 1 minute the right low boost light illuminated, and 20 seconds later, the right engine quit. The pilot feathered the right propeller and proceeded to execute a forced landing in the desert 5 miles east of the intended destination. During the accident sequence the right engine separated from the airplane and the left wing buckled, resulting in substantial damage to the airplane. The pilot reported that the airplane had ran out of fuel, and that there were no preimpact mechanical failures or malfunctions that would have precluded normal operation.

Accident Rpt# ERA12FA514	**08/19/2012 1155 EDT**	**Regis# N5542Z**	**Shirley, NY**	**Apt: Brookhaven Airport HWV**	
Acft Mk/Mdl SOCATA TB 10		**Acft SN 1191**	**Acft Dmg: SUBSTANTIAL**	**Rpt Status: Factual**	**Prob Caus: Pending**
Eng Mk/Mdl LYCOMING 0-360-A1D		**Acft TT 2258**	**Fatal 2**	**Ser Inj 1**	**Flt Conducted Under: FAR 091**
Opr Name: MCELROY DAVID J		**Opr dba:**			**Aircraft Fire: GRD**

Narrative

HISTORY OF FLIGHT

On August 19, 2012, about 1155 eastern daylight time, a Daher Socata TB10, N5542Z, was substantially damaged when it collided with trees and a construction dumpster during a forced landing after takeoff from Brookhaven Calabro Airport (HWV), Shirley, New York. The certificated private pilot/owner and a passenger were fatally injured, and the pilot-rated passenger, a prospective buyer for the airplane, was seriously injured. Visual meteorological conditions prevailed, and no flight plan was filed for the personal flight, which was conducted under the provisions of Title 14 Code of Federal Regulations Part 91.

The purpose of the accident flight was a pre-purchase demonstration of the accident airplane; a Daher Socata TB10 "Tobago." The buyer said that he intended to examine and photograph the maintenance logbooks and the Airworthiness Directives log, then fly the airplane around the airport traffic pattern with the owner. If he was satisfied with the maintenance logs and the performance of the airplane, he was going to order a pre-purchase examination of the airplane from a maintenance facility that specialized in the Socata.

In a postaccident interview, the buyer said he and his wife arrived at Brookhaven Airport, and asked the owner for the maintenance logbooks to examine and photograph. The owner pointed to a table where the logbooks were sitting, but insisted that they fly the airplane first, and examine them afterward. The buyer then placed his camera tripod on the table next to the logbooks, and walked with his wife and the owner to the airplane.

The buyer explained to the owner that he was unfamiliar with the Socata TB10, and asked the owner to perform the engine start and preflight checks. Once the engine was started and the checks completed, the owner stated that the mechanic had just informed him that the tachometer was "unreliable." The owner then proceeded to taxi the airplane to the runway for takeoff.

The buyer performed the takeoff roll and stated that the airplane's acceleration was unusually slow, and that the airplane used significantly more runway than he anticipated. At 65 knots indicated airspeed, the buyer attempted to rotate the airplane for takeoff. The airplane lifted off, but immediately settled back onto to the runway. The buyer then relinquished the flight controls to the owner, who continued the takeoff.

The buyer stated that, after lifting off the runway, the airplane "didn't leave ground effect." He stated that the airplane would not climb, and was "skimming the treetops." After reaching an altitude of about 150 feet, the airplane then "broke to the right and entered a classic stall/spin."

The buyer believed that he was ejected from the airplane during the collision with the trees and the dumpster, and described how he found himself and his wife outside the airplane and on fire.

When asked if he thought to abort the takeoff, he said he started to, and at the same time, he gave the flight controls to the owner. When asked if he thought the owner would abort the takeoff at that point, he said he had no expectation of whether the owner would abort or continue, because he felt that the airplane's lack of performance was due to his possibly "doing something incorrectly." As the owner continued the takeoff, another pilot announced over the airport's common traffic advisory frequency, "Tobago on takeoff, check your carb[uretor] heat." The buyer said he looked and confirmed that the throttle, mixture, propeller, and carburetor heat controls were all in the "full forward" position.

According to witnesses, their attention was drawn to the airplane during its takeoff roll. The pace was described as "slow" and "anemic" as the airplane used almost the entire length of the 4,000-foot-long runway to become airborne. They described the airplane as it climbed slowly to tree-top height, in a nose-high pitch attitude, and disappeared from view. Moments later, a large smoke plume appeared out of the trees a short distance beyond the airport boundary.

A witness who was standing on his back porch facing northeast, about 1.5 miles from the airport, said the airplane appeared above the trees at the back border of his property, flying directly toward him, and that the sound of the engine was "really loud." The airplane descended over his backyard and below the height of his one-story house in a 30-degree left bank. The airplane then pitched up, climbed over the house, and struck a tree and a construction dumpster in front of

the house, where it burst into flames. The witness then described his efforts to extinguish the fire and assist the occupants of the airplane.

PERSONNEL INFORMATION

The pilot/owner held a private pilot certificate with a rating for airplane single-engine land. His most recent Federal Aviation Administration (FAA) third-class medical certificate was issued on August 1, 2003. He reported 18 total hours of flight experience on that date. His pilot logbooks were not recovered.

The buyer held a private pilot certificate with a rating for airplane single-engine land. His most recent FAA third class medical certificate was issued on December 12, 2011. Examination of his logbook revealed the pilot had logged 189.8 total hours of flight experience, none of which was in the accident airplane make and model.

AIRCRAFT INFORMATION

According to FAA records, the airplane was manufactured in 1991 and was issued a ferry permit on June 20, 2012, in order to relocate the airplane and perform an annual inspection and other maintenance at HWV. Although the maintenance records were not recovered, the investigation revealed a two-page handwritten list of discrepancies for the airplane, prepared by the mechanic who relocated the airplane to HWV and was performing the maintenance on it. He stated that there were no anomalies with the performance and handling of the airplane on the ferry flight to HWV, but that the tachometer was "intermittent" and appeared to work properly only at high rpm engine settings.

Item number 27 on the mechanic's list was "Carb[uretor] has sediment in bowl - disassemble & clean." The item was checked in the margin and 3 hours of labor was annotated and billed.

The buyer stated that the airplane had been posted on the internet for sale, but that the owner did not reply to several requests to see the airplane and its records. He and his wife flew to Mattituck, New York, where the airplane had been parked for several years, to examine the exterior of the airplane. Afterwards, they continued to try to contact the owner. After several months, the owner finally responded to the buyer and informed him that the airplane had been flown to HWV for an annual inspection and correction of maintenance discrepancies in preparation for its sale.

Prior to the buyer's examination and test flight of the airplane at HWV, the owner represented to him in emails, text messages, and over the telephone that the annual inspection was completed, that there were no outstanding discrepancies, that the airplane was airworthy, and that it was ready for sale.

FAA inspectors, who responded immediately to the accident site, visited the mechanic at his facility the same day. The inspectors requested the maintenance records of the accident airplane, but the mechanic insisted that he did not possess them, and that he had surrendered them to the owner to "make copies." In a series of interviews with the FAA, as well as a statement submitted through his attorney, the mechanic stated that he did not complete the annual inspection because of the faulty tachometer, and because the pilot had complained about a lack of engine power following a flight in the accident airplane on August 16, 2012, 3 days prior to the accident. He stated that he made no effort to troubleshoot the engine power issue, because the airplane's tachometer was not operational.

The owner had a friend accompany him on the flight 3 days before the accident. In an interview, the friend explained that the airplane "would not climb properly" and never reached an altitude above 300-400 feet. The friend heard the owner complain to the mechanic that the tachometer was inoperative and that there was "something wrong with the power" that prevented the airplane from climbing normally. A witness to that flight reported to the FAA that he saw the airplane "struggling to get into the air." He described the airplane as "extremely" nose-high and tail-low, "barely" clearing the trees, "struggling" around the traffic pattern, and finally completing a "hard landing." The same witness observed the accident flight, and said that the airplane used the full length of the runway and again had "trouble" taking off.

According to his lawyer, the mechanic brought the airplane into the hangar on the day of the accident for the buyer's inspection, and then subsequently moved the airplane back outside for the owner, and told the owner the airplane "should not be flown." He also briefed the buyer about the features of the "new tach[ometer]" at the request of the owner because the tachometer was inoperative. The owner, the buyer, and his wife then left the hanger, and the airplane was heard to start and taxi away. The mechanic told his lawyer he "never thought" the owner would fly the airplane.

After the accident, the FAA inspectors who responded to the maintenance facility recovered the buyer's camera tripod from the bed of the pilot/owner's pickup

truck. The buyer stated that he placed the tripod next to the maintenance logbooks on a work table in the hangar just prior to the accident flight.

METEOROLOGICAL INFORMATION

The 1156 weather conditions reported at HWV, at 81 feet elevation, included clear skies, visibility 10 miles, temperature 23 degrees C, dewpoint 14 degrees C, and an altimeter setting of 29.97 inches of mercury. The wind was from 140 degrees at 7 knots.

WRECKAGE INFORMATION

The wreckage was examined at the accident site on August 20, 2012. The airplane was largely consumed by post-crash fire. The airplane struck a tree and a commercial construction dumpster that was parked on a residential street. Several pieces of angularly cut wood were found along the wreckage path.

A review of video footage revealed that, immediately after the crash, the airplane rested inverted on top of the dumpster. As the fire progressed, the remains of the wings, fuselage, empennage, and tail section fell into the dumpster. The cockpit and engine, with propeller attached, fell to the street, inverted, outside the dumpster.

Control cable continuity was established from the cockpit to components identifiable with the flight control surfaces. The cockpit was severely damaged by fire, and no usable evidence was gathered from it. The engine compartment forward of the firewall sustained minor fire damage. The engine cowlings were removed, and the engine displayed soot coatings on external components. Closer inspection revealed that the mixture control cable was disconnected from the carburetor mixture control arm. The cable displayed a light coating of soot, with no damage or fraying of the cable. The cable grip hardware on the mixture control arm was also undamaged, and the cable grip hole was completely open and unobstructed by the cable grip hardware.

The engine was recovered from the scene and examined at HWV. The engine was rotated by hand and continuity was established through the powertrain and valvetrain to the accessory section. Compression was confirmed on all but the number 1 cylinder, due to impact damage to the exhaust pushrod and the valve rocker. The single-drive, dual magneto was removed; rotated by hand, and produced spark at all terminal leads. The engine-driven fuel pump was removed, actuated by hand, and pumped fluid. The carburetor was removed, disassembled, and revealed heat damage to the carburetor floats. Further examination revealed no evidence of pre-impact mechanical deficiency.

The carburetor mixture control cable was sectioned several inches from the carburetor end. The sectioned cable and the carburetor mixture control arm were sent to the NTSB Materials Laboratory, Washington, DC, for examination.

MEDICAL AND PATHOLOGICAL INFORMATION

The FAA Bioaeronautical Sciences Research Laboratory, Oklahoma City, Oklahoma, performed the toxicological testing for the pilot. The following Tested-for-Drugs were detected:

Nicotine detected in blood and urine. Nicotine is an alkaloid found in tobacco products and is used as an insecticide.
Cotanine detected in blood and urine. Cotanine is a metabolite of nicotine.

A 12 percent concentration of carbon monoxide was detected in the pilot's blood. Up to 13 percent concentration can be detected in the blood of heavy smokers. The pilot was also exposed to significant post-crash fire.

The Office of the Medical Examiner, Suffolk County, New York, performed an autopsy on the pilot. The cause of death was the result of multiple blunt force and thermal injuries.

TESTS AND RESEARCH

On April 12, 2013, an NTSB Senior Materials Engineer examined the carburetor mixture control arm and cable section. According to his report, examination of the cable revealed that the cable had experienced clamping and sliding forces in the clamping area of the cable at some time during its service life, and that the associated contact areas of the attachment hardware similarly displayed signatures consistent with sliding forces. When measured, the minimum diameter of

the cable was 0.001 inch less than the clamping space between the washer and the bolt shoulder on the control arm as found at the crash site.

Accident Rpt# ERA13LA269	**06/04/2013 1700 CDT**	**Regis# N97592**	**Elkton, KY**	**Apt: Standard Field 5KY4**
Acft Mk/Mdl STINSON 108		**Acft SN 108-592**	**Acft Dmg: SUBSTANTIAL**	**Rpt Status: Prelim** **Prob Caus: Pending**
Eng Mk/Mdl FRANKLIN 6A4-150-B3		**Acft TT 2723**	**Fatal 0** **Ser Inj 0**	**Flt Conducted Under: FAR 091**
Opr Name: CLUB VOYAGER LLC		**Opr dba:**		**Aircraft Fire: NONE**
				AW Cert: STN

Narrative

On June 4, 2013, about 1700 central daylight time, a Stinson 108, N97592, was substantially damaged during a forced landing shortly after takeoff from Standard Field (5KY4), Elkton, Kentucky. The commercial pilot and passenger incurred minor injuries. Visual meteorological conditions prevailed, and no flight plan was filed for the flight, which was destined for Russellville-Logan County Airport (4M7), Russellville, Kentucky. The personal flight was conducted under the provisions of Title 14 Code of Federal Regulations Part 91.

The pilot stated that the purpose of the flight was to practice takeoffs and landings on the turf runway at 5KY4. Following an uneventful departure from 4M7 and first landing at 5KY4, he taxied back, took off, and entered the traffic pattern. During the next landing, the airplane touched down about one-third down the runway. Intending to perform a touch-and-go landing, the pilot increased engine power to full and the airplane began to climb back into the air.

During the climb, the pilot reported that the engine sounded normal and smooth, but that the climb rate seemed to be slower than it was previously. With about one-third of the runway remaining, the pilot confirmed the throttle position and the flap setting, and upon reaching the end of the runway, the pilot realized that "something was wrong." The pilot thought that the airplane might be able to climb above a line of trees located about 1,500 feet beyond the departure end of the runway, and he attempted to increase the climb rate by increasing the pitch angle. At an altitude of about 60 to 80 feet, and upon realizing that the airplane would not be able to clear the trees, the pilot turned the airplane left toward a field, and decreased the pitch angle.

The airplane descended and the pilot attempted to land the airplane in the soft ground of a corn field, however during the landing roll, the airplane nosed over, resulting in substantial damage to the airframe.

An examination of the wreckage was scheduled for a later date.

Accident Rpt# CEN13LA356 **06/08/2013 830 MDT** **Regis# N753ZF** **Golden, CO**

Acft Mk/Mdl ULTRAMAGIC N-250 **Acft SN 250/75** **Acft Dmg: MINOR** **Rpt Status: Prelim** **Prob Caus: Pending**

Fatal 0 **Ser Inj 1** **Flt Conducted Under: FAR 091**

Opr Name: ADVENTURE BALLOON SPORTS, LLC **Opr dba:** **Aircraft Fire: NONE**

Narrative

On June 8, 2013 about 0830 mountain daylight time, an Ultramagic N-250 hot air balloon, N753ZF, owned and operated by Adventure Balloon Sports, LLC, sustained minor damage when it impacted on to a road during a high wind landing near Golden, Colorado. One passenger on board sustained serious injuries. The pilot and another passenger sustained minor injuries. The 8 remaining passengers were uninjured. The business flight was being conducted under the provisions of 14 CFR Part 91 without a flight plan. Visual meteorological conditions prevailed at the time of the incident.

Emergency Medical Technicians for the Rocky Mountain Fire District who responded to the call reported the balloon impacted about 2.5 miles inside the main gate entrance to the Rocky Flats National Wildlife Refuge.

At 0655, the weather conditions at Erie, Colorado (KEIK),11 miles northeast of the accident scene were wind 300 degrees at 4 knots, clear skies, visibility 10 miles, temperature 66 degrees Fahrenheit (F), dew point 43 degrees F, and altimeter 29.81 inches.

At 0755, the weather conditions at KEIK were wind 030 degrees at 16 knots, gusts to 24 knots, clear skies, visibility 10 miles, temperature 65 degrees Fahrenheit (F), dew point 47 degrees F, and altimeter 29.89 inches.

At 0855, the weather conditions at KEIK were wind 020 degrees at 14 knots, gusts to 22 knots, clear skies, visibility 10 miles, temperature 66 degrees Fahrenheit (F), dew point 49 degrees F, and altimeter 29.94 inches.