Aviation Investigation Final Report

Location:	Gridley, California	**Accident Number:**	LAX07LA003
Date & Time:	October 6, 2006, 14:15 Local	**Registration:**	N134U
Aircraft:	Ulfeldt Kitfox IV-1200	**Aircraft Damage:**	Destroyed
Defining Event:		**Injuries:**	2 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The aircraft collided with the ground while attempting a return to runway maneuver following a loss of power in the takeoff initial climb. Within about 1 minute after takeoff during initial climb, the experimental, home-built, airplane experienced a loss of engine power. The airplane reversed direction and turned back toward the departure airstrip. A ground-based witness reported that during the turn the airplane appeared to stall. Thereafter, in a nose low attitude, it spiraled/spun downward in a "steep dive." The airplane's nose and a wing impacted the ground at the same time, whereupon a fire erupted that destroyed the airplane. The witness reported that he spoke with the accident pilot prior to the flight. The pilot reportedly stated that he had made a precautionary landing at the airstrip after experiencing an engine problem. The witness loaned the pilot a wrench to assist him in repairing the airplane, and the pilot proceeded to loosen one or two fittings in the engine area. The witness observed fuel "spurting" from the area after the fuel pump had been turned on. The airplane had fuel. Thereafter, the pilot and his friend, who was also a pilot and who had accompanied the owner-pilot during the flight, replaced the engine cowling. The first pilot indicated to the witness that he believed his problem was now fixed, and the pilots proceeded to takeoff. Both pilots held airplane single engine land ratings, and both held current FAA medical certificates. Neither of the pilots held aviation mechanic/repairman certificates. The airplane was severely damaged during the impact sequence, and thereafter was destroyed by fire. An examination of the remaining wreckage did not disclose evidence of any preimpact malfunction. No logbooks were located. The reason for the loss of engine power was not ascertained.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's failure to maintain an adequate airspeed while attempting a return to runway

maneuver that led to a stall spin. The reason for the power loss was not ascertained.

Findings

Occurrence #1: LOSS OF ENGINE POWER
Phase of Operation: TAKEOFF - INITIAL CLIMB

Findings
1. (C) REASON FOR OCCURRENCE UNDETERMINED

Occurrence #2: LOSS OF CONTROL - IN FLIGHT
Phase of Operation: MANEUVERING - TURN TO LANDING AREA (EMERGENCY)

Findings
2. (C) AIRSPEED(VS) - NOT MAINTAINED - PILOT IN COMMAND
3. (C) STALL/SPIN - ENCOUNTERED - PILOT IN COMMAND

Occurrence #3: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: DESCENT - UNCONTROLLED

Findings
4. TERRAIN CONDITION - OPEN FIELD

Factual Information

HISTORY OF FLIGHT

On October 6, 2006, about 1415 Pacific daylight time, an Ulfeldt Kitfox IV-1200, N134U, experienced a loss of engine power during initial climb from an open field about 10 nautical miles west-southwest (254 degrees, magnetic) of Gridley, California. Thereafter, the pilot(s) flying the experimental, home-built airplane reversed course. During the turn the airplane descended in a steep nose down and wing low attitude until impacting near the open field where the airplane had taken off about 1 minute earlier. A post-impact fire immediately erupted that destroyed the airplane. Both pilots were fatally injured. There were no passengers on board the dual control airplane. The commercial certificated pilot was the airplane's registered owner. The second pilot held a private pilot certificate and was reportedly a personal friend of the owner. The flight was performed under the provisions of 14 CFR Part 91. Visual meteorological conditions prevailed, and no flight plan had been filed for the personal flight.

According to an officer from the Colusa County Sheriff's Department who responded to the accident site, the airplane owner's wife reported to him that her husband had experienced a fuel-related problem with his airplane during the week preceding the accident flight. The pilot reportedly fixed the problem, and the pilot's friend (second pilot) may have assisted in performing the repair.

The pilot-owner's wife reported to the National Transportation Safety Board investigator that her husband might have assembled the airplane using components from other airplanes. The airplane bore a Federal Aviation Administration (FAA) registration number, but she did not know what it was, and she did not know the model of the accident airplane.

An eyewitness reported to the Safety Board investigator that he had spoken with the accident pilot (airplane owner/first pilot) minutes prior to his takeoff from a crop duster airstrip, which was located next to a farmer's field that he was tending. In pertinent part, the witness stated that the accident pilot was standing by his airplane. The accident pilot informed the witness that he and his friend had departed from the Willows-Glenn County Airport with an intended destination of the Yuba County Airport, Marysville, California. However, while cruising en route they had experienced an engine problem, and they landed at the dirt airstrip as a precaution. They were looking at the airplane to see if they could ascertain the nature of the problem and fix it.

The witness also stated to the Safety Board investigator that he observed the engine's cowling had been removed. The witness reported that he offered the first pilot use of a wrench. His offer was accepted, and the pilot proceeded to loosen one or two fittings in the engine area.

The witness observed fuel "spurting" from the area after the fuel pump had been turned on. It was obvious to the witness that the airplane had fuel. Thereafter, the pilot and his friend replaced the engine cowling. The first pilot indicated to the witness that he believed his problem was fixed, and he planned to takeoff. The witness observed the airplane taxi to the south end of the north-south oriented airstrip.

The witness estimated that the airplane became airborne after rolling between 1,200 and 1,500 feet. Initially, the airplane climbed over the airstrip, but then it veered slightly right of centerline. The wind was light and variable. The airplane gained between 200 and 250 feet above ground level and then turned "sharply right." The witness estimated that the bank angle was nearly 40 degrees, and the airplane appeared to be reversing course. No smoke was noted trailing from the airplane. During the turn, no engine sound was heard. The airplane appeared to stall, and then it spiraled down while "quickly descending in a steep dive." It appeared to impact the field in a wing low and nose low attitude, with the engine and a wing hitting the ground at the same time. The airplane "exploded" upon impacting the ground. The fuselage, empennage, and the engine were all located together, at the site of ground impact. The main landing gear was found about 15 feet southeast of the main wreckage. The airplane came to rest less than 1/8-mile north-northeast of the airstrip.

The witness further stated to the Safety Board investigator that he was also a pilot. He stated that crop duster airplanes typically use the airstrip from which the accident airplane departed. The airstrip has a dirt runway oriented in a north-to-south direction, and he estimated that it is between 2,000 and 2,500 feet long.

The Colusa County Sheriff's department recovered the wreckage and placed it into temporary secured storage for its subsequent examination by Federal Aviation Administration (FAA) personnel from the Sacramento, California, Flight Standards District Office (FSDO).

PERSONNEL INFORMATION

The first pilot was the registered owner of the airplane. He held a commercial pilot certificate with the following ratings: single and multiengine land airplane, and instrument airplane. The pilot-owner did not hold a FAA mechanic certificate. According to the FAA, the pilot reported having an estimated 800 hours of flight time.

The second pilot held a private pilot certificate, with the following rating: single engine land airplane. The second pilot did not hold a FAA mechanic certificate. According to the FAA, he had an estimated 935 hours of flight time.

No flight logbooks were provided to the Safety Board investigator for either pilot.

WRECKAGE AND IMPACT INFORMATION

The accident site was located in an open, near a level, plowed rice field at the following

approximate global positioning system coordinates: 39 degrees 21.61 minutes north latitude, by 121 degrees 55.54 minutes west longitude. The estimated elevation is 60 feet mean sea level.

On October 18, 2006, an FAA inspector from Sacramento FSDO reported having completed the on scene examination of the accident site and the follow-up structural examination of the airframe. In pertinent part, the FAA reported that the airplane's structure was found in one principal location at the site of the ground impact. Several portions of the airframe structure separated from the main wreckage and were located adjacent to the main impact site. In particular, the landing gear was found separated from the fuselage, and the wings were displaced/separated from their respective attachment points. Based upon the ground scar signature, the airplane came to rest immediately after touchdown. No ground scar swath leading to the main wreckage was observed. The soil around the main wreckage area was undisturbed by the impact. According to the FAA, the wreckage exhibited signatures consistent with "severe G forces during ground impact."

Regarding the structural examination of the airframe, the FAA was unable to confirm continuity of the flight control system. The airframe exhibited impact-related signatures and was destroyed by the post-impact ground fire. The FAA noted that the airplane was manufactured with fabric covered wings with wooden ribs, and with a wooden propeller, all of which were destroyed by the post impact fire. No airplane maintenance or logbooks were provided to the Safety Board for examination.

MEDICAL AND PATHOLOGICAL INFORMATION

The first and second pilots held FAA aviation medical certificates that were issued in the third-class. The certificates were issued in October 2006 and August 2005, respectively.

An autopsy was performed on each pilot by the Colusa County Coroner's Office, 929 Bridge Street, Colusa, California 95932.

Results of toxicology tests performed by the FAA's Forensic Toxicology Research Laboratory on the first pilot revealed 0.4 ug of cyanide in his blood. No drugs or ethanol was detected.

Results of toxicology tests on the second pilot revealed ibuprofen in his urine. No other drugs or ethanol was detected.

ADDITIONAL INFORMATION

The airplane wreckage was released to the pilot's wife on October 19, 2006. No parts were retained.

Pilot Information

Certificate:	Commercial	**Age:**	52,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	**Seat Occupied:**	Right
Other Aircraft Rating(s):	None	**Restraint Used:**	
Instrument Rating(s):	Airplane	**Second Pilot Present:**	Yes
Instructor Rating(s):	None	**Toxicology Performed:**	Yes
Medical Certification:	Class 3 Without waivers/limitations	**Last FAA Medical Exam:**	October 1, 2006
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:	800 hours (Total, all aircraft)		

Pilot Information

Certificate:	Private	**Age:**	59,Male
Airplane Rating(s):	Single-engine land	**Seat Occupied:**	Unknown
Other Aircraft Rating(s):	None	**Restraint Used:**	
Instrument Rating(s):	None	**Second Pilot Present:**	Yes
Instructor Rating(s):	None	**Toxicology Performed:**	Yes
Medical Certification:	Class 3 Without waivers/limitations	**Last FAA Medical Exam:**	August 1, 2005
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:	935 hours (Total, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Ulfeldt	**Registration:**	N134U
Model/Series:	Kitfox IV-1200	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	Yes
Airworthiness Certificate:	Experimental (Special)	**Serial Number:**	1727
Landing Gear Type:	Tailwheel	**Seats:**	2
Date/Type of Last Inspection:	Unknown	**Certified Max Gross Wt.:**	
Time Since Last Inspection:		**Engines:**	1 Reciprocating
Airframe Total Time:		**Engine Manufacturer:**	Subaru
ELT:	Installed	**Engine Model/Series:**	
Registered Owner:	Tarlochan S. Heir	**Rated Power:**	
Operator:		**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	MYV,62 ft msl	**Distance from Accident Site:**	23 Nautical Miles
Observation Time:	12:53 Local	**Direction from Accident Site:**	119°
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	3 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	220°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	29.94 inches Hg	**Temperature/Dew Point:**	20°C / 9°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Gridley, CA	**Type of Flight Plan Filed:**	None
Destination:	Willows, CA (WLW)	**Type of Clearance:**	None
Departure Time:	14:14 Local	**Type of Airspace:**	

Airport Information

Airport:	Private Farm Airstrip NONE	**Runway Surface Type:**	Dirt
Airport Elevation:	60 ft msl	**Runway Surface Condition:**	Dry
Runway Used:	18	**IFR Approach:**	None
Runway Length/Width:	2000 ft / 30 ft	**VFR Approach/Landing:**	Forced landing

Wreckage and Impact Information

Crew Injuries:	2 Fatal	**Aircraft Damage:**	Destroyed
Passenger Injuries:		**Aircraft Fire:**	On-ground
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	2 Fatal	**Latitude, Longitude:**	39.366664,-121.931388

Administrative Information

Investigator In Charge (IIC):	Pollack, Wayne
Additional Participating Persons:	James P Nelson; Federal Aviation Administration; Sacramento, CA
Original Publish Date:	July 25, 2007
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=64663