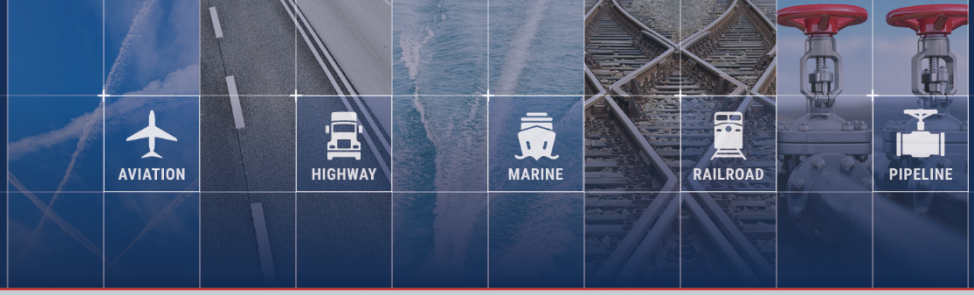

Aviation Investigation Factual Report

Location:	Half Moon Bay, California	**Accident Number:**	WPR13FA013
Date & Time:	October 15, 2012, 05:15 Local	**Registration:**	N72AH
Aircraft:	AEROPRO CZ A240	**Aircraft Damage:**	Substantial
Defining Event:	Collision during takeoff/land	**Injuries:**	1 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

On October 15, 2012, about 0515 Pacific daylight time (PDT), a light sport, Aeropro CZ A240 airplane, N72AH, impacted terrain near Half Moon Bay, California. The sport pilot was operating the airplane under the provisions of 14 Code of Federal Regulations (CFR) Part 91. The pilot sustained fatal injuries. The airplane sustained substantial damage during the accident sequence and post impact fire. Instrument meteorological conditions prevailed, and no flight plan had been filed. The cross-country personal flight departed Half Moon Bay Airport (HAF), Half Moon Bay, California about 0513 with a planned destination of Apple Valley Airport, Apple Valley, California.

The airplane did not reach its destination at its expected time, and became the subject of an Alert Notice (ALNOT) issued by the Federal Aviation Administration (FAA). A search was conducted by the Civil Air Patrol and the Coast Guard, and the airplane was subsequently located the morning of October 16. The wreckage was located about 400 yards west of HAF on a west facing slope. The slope was part of Pillar Point Bluffs that overlook and parallel the runway west of HAF.

Pilot Information

Certificate:	Sport Pilot	**Age:**	75
Airplane Rating(s):	Single-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	
Instrument Rating(s):	None	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	Yes
Medical Certification:	None	**Last FAA Medical Exam:**	
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:	822 hours (Total, all aircraft), 999 hours (Total, this make and model), 822 hours (Pilot In Command, all aircraft)		

A review of FAA airman records revealed that the 75-year-old-pilot held a sport pilot certificate with an endorsement for airplane single-engine land. The most recent FAA medical certificate was issued to the pilot in March 1985, with the limitation that he must wear corrective lenses for near and distant vision.

According to the FAA, the pilot was medically eligible to fly as a light sport pilot as long as he had a valid driver's license and was in compliance with 14 CFR 61.53 "Prohibition on operations during medical deficiency".

The pilot submitted his last medical application on March 7, 1985. He reported he had a total time of 157 hours with 28 hours logged in the last 6 months.

According to FAA documentation, on January 17, 1992, the sport pilot voluntarily surrendered his Mechanic-Powerplant; Private Pilot-Single Engine Land and Glider-Aero Tow; and Senior Parachute

Rigger Certificates due to failing eye sight.

A review of the pilot's logbook revealed that the last entry was on August 29th, 2012; at that time the pilot had accrued 822.6 hours of total flight time.

Aircraft and Owner/Operator Information

Aircraft Make:	AEROPRO CZ	**Registration:**	N72AH
Model/Series:	A240	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Special light-sport (Special)	**Serial Number:**	32511
Landing Gear Type:	Tricycle	**Seats:**	2
Date/Type of Last Inspection:	May 8, 2012 Unknown	**Certified Max Gross Wt.:**	
Time Since Last Inspection:		**Engines:**	1 Reciprocating
Airframe Total Time:	123 Hrs as of last inspection	**Engine Manufacturer:**	Rotax
ELT:	Not installed	**Engine Model/Series:**	912ULS
Registered Owner:	On file	**Rated Power:**	100 Horsepower
Operator:	On file	**Operating Certificate(s) Held:**	None

The airplane was a light sport Aeropro CZ, serial number 32511. The aircraft logbook reported that the airplane had a total airframe time of 122.7 hours at the most recent annual inspection. The last entry in the aircraft logbook showed 144.9 hours of total time.

The engine was a Rotax 912ULS, serial number 6777485. Total time recorded on the engine at the most recent annual inspection was 122.7 hours of total time. According to the last entry in the aircraft logbook, the engine oil and filter was changed at 144.9 hours of total time in service.

Fueling records at the Half Moon Bay Airport established that the airplane was last fueled on October 9, 2012 at 1703 with the addition of about 13 gallons of 100LL fuel. Subsequent to the accident, fuel was tested at the HAF fueling facilities for contaminates and tested OK for use.

Meteorological Information and Flight Plan

Conditions at Accident Site:	Instrument (IMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	HAF	**Distance from Accident Site:**	
Observation Time:		**Direction from Accident Site:**	
Lowest Cloud Condition:		**Visibility**	1 miles
Lowest Ceiling:	Overcast / 300 ft AGL	**Visibility (RVR):**	
Wind Speed/Gusts:	6 knots / None	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	360°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30.07 inches Hg	**Temperature/Dew Point:**	13°C / 13°C
Precipitation and Obscuration:	N/A - None - Mist		
Departure Point:	Half Moon Bay, CA (HAF)	**Type of Flight Plan Filed:**	None
Destination:	Apple Valley, CA	**Type of Clearance:**	None
Departure Time:	05:50 Local	**Type of Airspace:**	Class D

An aviation routine weather report was recorded at HAF, near the time of the accident. It indicated at 0555 PDT, wind was from 360 degrees at 6 knots, 3/4 miles visibility, mist, with an overcast ceiling at 300 feet, temperature 13 degrees C, dew point 13 degrees C, and an altimeter setting at 30.08 inches of mercury.

Airport Information

Airport:	Half Moon Bay Airport HAF	**Runway Surface Type:**	Asphalt;Concrete
Airport Elevation:	66 ft msl	**Runway Surface Condition:**	Wet
Runway Used:	30	**IFR Approach:**	None
Runway Length/Width:	5000 ft / 150 ft	**VFR Approach/Landing:**	None

The FAA Digital Airport/Facility Directory indicated that HAF Airport had an Automated Weather Observation System (AWOS)-3, which broadcast on frequency 127.275.

The FAA Digital Airport/Facility Directory indicated that HAF runway 30 is ,5000 feet long and 150 feet wide. The runway surface was asphalt and concrete, and had a displaced threshold of 762 feet.

Wreckage and Impact Information

Crew Injuries:	1 Fatal	**Aircraft Damage:**	Substantial
Passenger Injuries:		**Aircraft Fire:**	On-ground
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 Fatal	**Latitude, Longitude:**	37.510276,-122.505279(est)

Investigators from the National Transportation Safety Board (NTSB) and an inspector from the FAA examined the wreckage at the accident scene. The first identified point of contact (FIPC) was a pattern of broken and displaced brush and limbs about 35 feet in length. Paralleling the pattern was a narrow swath about 15 feet in length. A red colored lens assembly was found near the (FIPC). The pattern and swath led uphill to the principle impact crater (PIC) which was about 5 feet in diameter. Multiple propeller blade fragments were found near the PIC. The main wreckage was found further uphill surrounded by undamaged trees and bushes about 10 feet in height. Thermal damage was contained only to the main wreckage and was not found in the debris path.

Aileron control continuity was established through the impact damaged control rods. The rudder control cables were continuous and remained attached to the rudder horn and the rudder pedals. The elevator control rods were separated at the mid-section connecting supports.

Medical and Pathological Information

The FAA Bioaeronautical Sciences Research Laboratory Forensic Toxicology Research Team, Oklahoma City, Oklahoma, performed toxicological testing of specimens of the pilot. Analysis of the specimens detected Warfarin, an anticoagulant medication. Ethanol was tested and none was detected in the specimens. No tests were performed for carbon monoxide or cyanide.

Tests and Research

The engine was examined at Plain Parts, Sacramento, California on October 25, 2012. At the conclusion of the examination no mechanical malfunctions or anomalies were found with the engine components. A full report is contained within the public docket for this accident.

Additional Information

The NTSB investigator-in-charge reviewed recorded radar data from the Northern California TRACON. Ten targets made up the radar track were recorded with altitude varying from 600 up to 1,100 feet mean sea level (msl) at about the time of the accident. The recorded radar data indicated that after the target departed from HAF, it entered a climbing left turn. After turning 90-degrees arc, at the highest altitude of 1,100 feet msl, the target continued its left turn, decreasing in altitude with the last target in direction of HAF in the area of the accident site.

According to FAA Advisory Circular (AC) 60-4A "Pilot's Spatial Disorientation," "Surface references and the natural horizon may at times become obscured, although visibility may be above visual flight rule minimums. Lack of natural horizon or surface reference is common on over-water flights, at night, and especially at night in extremely sparsely populated areas or in low visibility conditions. A sloping cloud formation, an obscured horizon, a dark scene spread with ground lights and stars, and certain geometric patterns of ground lights can provide inaccurate visual information for aligning the aircraft correctly with the actual horizon. The disoriented pilot may place the aircraft in a dangerous attitude."

Administrative Information

Investigator In Charge (IIC):	Swick, Andrew
Additional Participating Persons:	Richard Baker; FAA-Oakland Flight Standards District Office; Alemeda, CA
Report Date:	November 5, 2013
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=85338