



# National Transportation Safety Board Aviation Accident Final Report

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<b>Location:</b>	Santa Barbara, CA	<b>Accident Number:</b>	WPR17FA033
<b>Date &amp; Time:</b>	12/06/2016, 1018 PST	<b>Registration:</b>	N188M
<b>Aircraft:</b>	AIRBORNE WINDSPORTS PTY LTD EDGE XT-912-L	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>	Loss of control in flight	<b>Injuries:</b>	1 Fatal
<b>Flight Conducted Under:</b>	Part 91: General Aviation - Personal		

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## Analysis

The pilot of the weight-shift control aircraft uneventfully departed runway 15 and made a right turn to the crosswind leg of the traffic pattern. He then requested and was cleared for the downwind leg for the intersecting runway. While making the turn to the downwind leg, the aircraft entered a rapid descent and impacted the ground near an apartment complex. Postaccident examination of the airframe and engine revealed no anomalies that would have precluded normal operation. The crankshaft exhibited torsional twisting, consistent with the engine producing power at the time of impact.

The pilot purchased the aircraft new and took delivery 4 days before the accident. Review of his logbook revealed 65 total hours of flight experience, with 12 hours in the accident aircraft make and model; however, his flight experience in the accident aircraft could not be determined.

Toxicology testing on the pilot was positive for tetrahydrocannabinol (THC, the primary psychoactive component of marijuana) and tetrahydrocannabinol carboxylic acid (THC-COOH, an inactive metabolite); however, there is no established direct relationship between blood levels and impairment. Therefore, it could not be determined whether psychoactive effects from the pilot's use of marijuana contributed to the accident.

Although the circumstances of the accident are consistent with a loss of control in the airport traffic pattern, the investigation was unable to determine the reason for the loss of control.

## 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 aircraft control while maneuvering in the traffic pattern.

## Findings

<b>Personnel issues</b>	Aircraft control - Pilot (Cause) Use of medication/drugs - Pilot
<b>Not determined</b>	Not determined - Unknown/Not determined (Cause)

## Factual Information

### History of Flight

Approach-VFR pattern downwind	Loss of control in flight (Defining event)
Uncontrolled descent	Collision with terr/obj (non-CFIT)

On December 6, 2016, about 1018 Pacific standard time, an Airborne Windsports PTY LTD Edge XT-912-L weight-shift control light sport aircraft, N188M, impacted terrain shortly after takeoff from Santa Barbara Municipal Airport (SBA), Santa Barbara, California. The pilot was fatally injured, and the aircraft sustained substantial damage. The aircraft was registered to and operated by the pilot under the provisions of Title 14 *Code of Federal Regulations* Part 91. Visual meteorological conditions prevailed at the time of the accident and no flight plan was filed for the personal flight, which originated from SBA about 1016.

Air traffic controllers working in the SBA tower observed the aircraft uneventfully depart runway 15 and make a right turn to the crosswind leg of the traffic pattern. The pilot then requested to enter the traffic pattern for runway 25, and the tower controller cleared the pilot to make right traffic for that runway. While turning onto the downwind leg for runway 25, the aircraft entered a rapid descent. The aircraft subsequently impacted the ground near an apartment complex.

### Pilot Information

Certificate:	Private	Age:	45, Male
Airplane Rating(s):	Single-engine Land	Seat Occupied:	Front
Other Aircraft Rating(s):	None	Restraint Used:	Unknown
Instrument Rating(s):	None	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	Yes
Medical Certification:	Class 3 Without Waivers/Limitations	Last FAA Medical Exam:	07/27/2015
Occupational Pilot:	No	Last Flight Review or Equivalent:	08/13/2015
Flight Time:	(Estimated) 65 hours (Total, all aircraft), 12 hours (Total, this make and model)		

The pilot, age 45, held a private pilot certificate with a rating for airplane single-engine land, issued March 14, 2013. The pilot received his endorsement for weight-shift control aircraft on June 24, 2016. The pilot's logbook indicated that he had 65 total hours of flight experience, 12 of which were in the accident aircraft make and model. He had no documented flight time in

the accident aircraft.

On July 27, 2015, the pilot was issued a third-class Federal Aviation Administration (FAA) airman medical certificate with no limitations. During the exam, he reported no medical conditions or use of medications; however, he had reported driving under the influence (DUI), and a conviction for marijuana cultivation more than 20 years earlier. The FAA initially denied the medical certificate because the pilot failed to show evidence of continued sobriety, but after providing the necessary evidence, the FAA issued the medical certificate.

### Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	AIRBORNE WINDSPORTS PTY LTD	<b>Registration:</b>	N188M
<b>Model/Series:</b>	EDGE XT-912-L	<b>Aircraft Category:</b>	Weight-Shift
<b>Year of Manufacture:</b>	2016	<b>Amateur Built:</b>	No
<b>Airworthiness Certificate:</b>	Special Light-Sport	<b>Serial Number:</b>	XT-912-0502
<b>Landing Gear Type:</b>	Tricycle	<b>Seats:</b>	2
<b>Date/Type of Last Inspection:</b>	09/20/2016, Annual	<b>Certified Max Gross Wt.:</b>	992 lbs
<b>Time Since Last Inspection:</b>		<b>Engines:</b>	1 Reciprocating
<b>Airframe Total Time:</b>	1 Hours at time of accident	<b>Engine Manufacturer:</b>	Rotax
<b>ELT:</b>	Not installed	<b>Engine Model/Series:</b>	912 UL
<b>Registered Owner:</b>	On file	<b>Rated Power:</b>	80 hp
<b>Operator:</b>	On file	<b>Operating Certificate(s) Held:</b>	None

The aircraft was approved for a special airworthiness certificate on November 28, 2016. The pilot purchased the aircraft new and took delivery of it 4 days before the accident.

## Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	SBA, 13 ft msl	Distance from Accident Site:	1 Nautical Miles
Observation Time:	0953 PST	Direction from Accident Site:	
Lowest Cloud Condition:	Scattered / 3000 ft agl	Visibility	10 Miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	6 knots /	Turbulence Type Forecast/Actual:	/ None
Wind Direction:	250°	Turbulence Severity Forecast/Actual:	/ N/A
Altimeter Setting:	30.02 inches Hg	Temperature/Dew Point:	16 °C / 11 °C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Santa Barbara, CA (SBA)	Type of Flight Plan Filed:	None
Destination:	Santa Barbara, CA (SBA)	Type of Clearance:	None
Departure Time:	1016 PST	Type of Airspace:	Class C

## Airport Information

Airport:	Santa Barbara Municipal Airpor (SBA)	Runway Surface Type:	Asphalt
Airport Elevation:	13 ft	Runway Surface Condition:	Dry
Runway Used:	25	IFR Approach:	None
Runway Length/Width:	6052 ft / 150 ft	VFR Approach/Landing:	Traffic Pattern

SBA is located adjacent to the Pacific Ocean at a field elevation of 13 ft. The airport has three hard-surfaced runways. Runway 7/25 is 6,052 ft long and 150 ft wide, runway 15R/33L is 4,184 ft long and 100 ft wide, and runway 15L/33R is 4,180 ft long and 75 ft wide.

## Wreckage and Impact Information

Crew Injuries:	1 Fatal	Aircraft Damage:	Substantial
Passenger Injuries:	N/A	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Fatal	Latitude, Longitude:	34.433333, -119.850556 (est)

The aircraft impacted terrain in a residential area about 1 mile northwest of SBA. The first identified point of impact was the roof of a carport; beneath the carport were fragments of the fuselage and items from the cabin area. To the north of the carport was one fracture-separated propeller blade. Immediately adjacent and to the west of the carport was a small tree. A branch of the tree came to rest on an unoccupied parked car next to the carport; another tree branch was stuck in the aircraft's down tubes and control bar. Fragments of landing gear and roofing shingles were scattered until the main wreckage, which was about 30 ft west of the carport. The main wreckage came to rest against a vehicle, with the seat and engine of the aircraft on their right sides. The wing was bent in half and was resting above the engine and seat with the trailing edge toward the ground. The right side of the wing was bent downward and was draped across two unoccupied parked vehicles.

During a postaccident examination, the propeller hub would not rotate freely when rotated by hand; therefore, the engine was completely disassembled. The intake manifolds, carburetors, ignition systems, and oil pump were removed and no anomalies were noted. The reduction drive gearbox was removed and undamaged; the magnetic plug was clear of debris. The valve covers were removed; the rocker arms and valve springs exhibited normal operating wear signatures. The cylinder heads, pistons, and hydraulic tappet lifters were removed and exhibited normal operating wear signatures. The crankcase was separated into its respective halves. The crankshaft would still not rotate by hand. The crankshaft's #3 piston web was not aligned with the #2 piston web, consistent with torsional damage.

## Medical And Pathological Information

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The Santa Barbara County Sheriff - Coroner, Santa Barbara, California, performed an autopsy of the pilot; the cause of death was multiple traumatic injuries. No significant natural disease was identified.

The coroner requested that NMS Laboratories perform toxicology testing, which identified caffeine, 3.1 ng/ml of tetrahydrocannabinol (THC, the primary psychoactive component of marijuana), and 6.5 ng/ml of tetrahydrocannabinol carboxylic acid (THC-COOH, an inactive metabolite) in subclavian blood.

The FAA's Bioaeronautical Sciences Research Laboratory, Oklahoma City, Oklahoma, performed toxicology testing as well and identified 4.5 ng/ml of THC and 5.5 ng/ml of THC-COOH in cavity blood. THC-COOH was also identified in urine (67.9 ng/ml) and liver tissue (40.1 ng/gm).

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Samantha A Link	<b>Report Date:</b>	07/16/2018
<b>Additional Participating Persons:</b>	Adam Such; Federal Aviation Administration; Van Nuys, CA		
<b>Publish Date:</b>	07/16/2018		
<b>Note:</b>	The NTSB traveled to the scene of this accident.		
<b>Investigation Docket:</b>	<a href="http://dms.nts.gov/pubdms/search/dockList.cfm?mKey=94467">http://dms.nts.gov/pubdms/search/dockList.cfm?mKey=94467</a>		

The National Transportation Safety Board (NTSB), established in 1967, is an independent federal agency mandated by Congress through the Independent Safety Board Act of 1974 to investigate transportation accidents, determine the probable causes of the accidents, issue safety recommendations, study transportation safety issues, and evaluate the safety effectiveness of government agencies involved in transportation. The NTSB makes public its actions and decisions through accident reports, safety studies, special investigation reports, safety recommendations, and statistical reviews.

The Independent Safety Board Act, as codified at 49 U.S.C. Section 1154(b), precludes the admission into evidence or use of any part of an NTSB report related to an incident or accident in a civil action for damages resulting from a matter mentioned in the report. A factual report that may be admissible under 49 U.S.C. § 1154(b) is available [here](#).