



# National Transportation Safety Board Aviation Accident Final Report

---

<b>Location:</b>	SANTA BARBARA, CA	<b>Accident Number:</b>	LAX99LA067
<b>Date &amp; Time:</b>	01/03/1999, 1627 PST	<b>Registration:</b>	N3585V
<b>Aircraft:</b>	Cessna 140	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>		<b>Injuries:</b>	2 Minor
<b>Flight Conducted Under:</b>	Part 91: General Aviation - Personal		

---

## Analysis

The airplane was performing touch-and-go landings and had just lifted off to climb on the runway heading when the engine abruptly lost power at 150 feet above ground level. The pilot attempted to execute a turn and lower the nose to maintain airspeed. The engine was faltering and producing partial power, then cycling and producing no power. The pilot did not have sufficient altitude to make the runway and the airplane nosed over and came to rest in a marsh located near the runway. Examination of the engine found that the right magneto to engine timing was 17 degrees before top dead center of cylinder number one. The Lycoming engine data plate specifies that the engine to magneto timing be set at 25 degrees. The left magneto was inoperative and further investigation found that the primary coil circuit was internally shorted. Review of the maintenance records disclosed that the last annual inspection was accomplished on May 5, 1998, about 40 hours prior to the accident. No entries were found detailing maintenance on the magnetos after the annual.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: A loss of engine power due to an internal left magneto coil primary circuit short. Factors were insufficient altitude and inadequate terrain to make an emergency landing.

## Findings

---

Occurrence #1: LOSS OF ENGINE POWER(TOTAL) - MECH FAILURE/MALF  
Phase of Operation: TAKEOFF - INITIAL CLIMB

### Findings

1. (C) IGNITION SYSTEM,MAGNETO - SHORTED
2. (C) IGNITION SYSTEM,MAGNETO - TIMING IMPROPER

-----

Occurrence #2: FORCED LANDING  
Phase of Operation: EMERGENCY LANDING AFTER TAKEOFF

### Findings

3. ALTITUDE - INADEQUATE

-----

Occurrence #3: NOSE OVER  
Phase of Operation: LANDING - FLARE/TOUCHDOWN

### Findings

4. TERRAIN CONDITION - SOFT

## Factual Information

On January 3, 1999, at 1627 hours Pacific standard time, a Cessna 140, N3585V, nosed over and came to rest inverted in a marsh following a touch-and-go landing attempt at the Santa Barbara, California, airport. The airplane sustained substantial damage, and the commercial pilot/owner and his passenger received minor injuries. The flight was being flown under CFR Part 91 when the accident occurred. The personal flight originated in Santa Paula, California, at 1550, and a flight plan was not filed for the flight. Visual meteorological conditions prevailed at the time of the accident.

The pilot reported that he was cleared for touch-and-go's on runway 15L. He stated he had just lifted off and was proceeding to climb on the runway heading when the engine power "abruptly reduced to no power" at 150 feet agl. He said he executed a gradual turn to the right, and lowered the nose to maintain forward airspeed. He said that the engine was faltering and producing partial power, and then no power. He said the airplane struck the ground with a slight nose low attitude.

The airplane was removed from the site and relocated to a nearby aircraft wreckage yard. At the request of the Safety Board, the wreckage was examined under the supervision of a Van Nuys, California Flight Standards District Office aviation inspector and a Textron Lycoming engine representative. According to the Textron Lycoming engine representative, the engine did not display any evidence of premishap catastrophic mechanical malfunction or fire.

The bottom spark plugs were removed and examined by the engine representative. He noted that the spark plug electrodes were undamaged from any foreign object ingestion. The crankshaft was rotated by hand utilizing the propeller, and was free and easy to rotate in both directions. Thumb compression was observed in proper order on all four cylinders.

The right magneto was found securely clamped. The magneto to engine timing was observed at 17 degrees before top dead center (BTDC) of cylinder number one. The Lycoming engine data plate specifies the engine to magneto timing be at 25 degrees BTDC.

The left magneto, S4LN-21, 10-51360-37, s/n 0010469 was found securely clamped. The impulse coupling was heard clicking during rotation of the crankshaft. During the magneto to engine timing check, the timing light would not illuminate on the synchrophaser during rotation of the crankshaft. The magneto to engine timing could not be ascertained. The magneto was removed for further examination. The drive was observed to be intact and properly saftied. The contact assembly (points) was undamaged and was observed to operate normally during hand rotation of the drive. Further examination of the magneto coil revealed that the primary circuit was internally shorted. A complete copy of the Textron Lycoming report is appended to this report.

Review of the maintenance records disclosed that the last annual inspection was accomplished on May 5, 1998, about 40 hours prior to the accident. No entries were found detailing maintenance on the magnetos after the annual.

The wreckage was released to the registered owner at the conclusion of the engine examination on March 1, 1999.

## Pilot Information

<b>Certificate:</b>	Commercial	<b>Age:</b>	51, Male
<b>Airplane Rating(s):</b>	Single-engine Land	<b>Seat Occupied:</b>	Left
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	Seatbelt, Shoulder harness
<b>Instrument Rating(s):</b>	Airplane	<b>Second Pilot Present:</b>	No
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	
<b>Medical Certification:</b>	Class 3 Valid Medical--w/ waivers/lim.	<b>Last FAA Medical Exam:</b>	08/28/1997
<b>Occupational Pilot:</b>		<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>	1044 hours (Total, all aircraft), 800 hours (Total, this make and model), 982 hours (Pilot In Command, all aircraft), 23 hours (Last 90 days, all aircraft), 13 hours (Last 30 days, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	Cessna	<b>Registration:</b>	N3585V
<b>Model/Series:</b>	140 140	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	No
<b>Airworthiness Certificate:</b>	Normal	<b>Serial Number:</b>	14750
<b>Landing Gear Type:</b>	Tailwheel	<b>Seats:</b>	2
<b>Date/Type of Last Inspection:</b>	05/05/1998, Annual	<b>Certified Max Gross Wt.:</b>	1450 lbs
<b>Time Since Last Inspection:</b>	40 Hours	<b>Engines:</b>	1 Reciprocating
<b>Airframe Total Time:</b>	817 Hours	<b>Engine Manufacturer:</b>	Lycoming
<b>ELT:</b>	Installed	<b>Engine Model/Series:</b>	O-235-C1
<b>Registered Owner:</b>	RUSSELL T. EVANS	<b>Rated Power:</b>	108 hp
<b>Operator:</b>	RUSSELL T. EVANS	<b>Operating Certificate(s) Held:</b>	None

## Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	SBA, 10 ft msl	Distance from Accident Site:	0 Nautical Miles
Observation Time:	1639 PST	Direction from Accident Site:	0°
Lowest Cloud Condition:	Clear / 0 ft agl	Visibility	10 Miles
Lowest Ceiling:	None / 0 ft agl	Visibility (RVR):	0 ft
Wind Speed/Gusts:	4 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	290°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30 inches Hg	Temperature/Dew Point:	18° C / 1° C
Precipitation and Obscuration:			
Departure Point:	SANTA PAULA, CA (SZP)	Type of Flight Plan Filed:	None
Destination:	(SBA)	Type of Clearance:	VFR
Departure Time:	1550 PST	Type of Airspace:	Class D

## Airport Information

Airport:	SANTA BARBARA AIRPORT (SBA)	Runway Surface Type:	Asphalt
Airport Elevation:	10 ft	Runway Surface Condition:	Dry
Runway Used:	15L	IFR Approach:	None
Runway Length/Width:	4179 ft / 75 ft	VFR Approach/Landing:	Touch and Go

## Wreckage and Impact Information

Crew Injuries:	1 Minor	Aircraft Damage:	Substantial
Passenger Injuries:	1 Minor	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	2 Minor	Latitude, Longitude:	

## Administrative Information

Investigator In Charge (IIC):	DEBORAH L CHILDRESS	Report Date:	06/23/2000
Additional Participating Persons:	JOEL HARRIS; VAN NUYS, CA MARK PLATT; VAN NUYS, CA		
Publish Date:			
Investigation Docket:	NTSB accident and incident dockets serve as permanent archival information for the NTSB's investigations. Dockets released prior to June 1, 2009 are publicly available from the NTSB's Record Management Division at <a href="mailto:pubinq@ntsb.gov">pubinq@ntsb.gov</a> , or at 800-877-6799. Dockets released after this date are available at <a href="http://dms.nts.gov/pubdms/">http://dms.nts.gov/pubdms/</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](#).