



# Aviation Investigation Final Report

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<b>Location:</b>	Winterset, Iowa	<b>Accident Number:</b>	CEN12LA224
<b>Date &amp; Time:</b>	April 1, 2012, 15:15 Local	<b>Registration:</b>	N3830G
<b>Aircraft:</b>	Cessna U206B	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>	Loss of engine power (total)	<b>Injuries:</b>	7 None
<b>Flight Conducted Under:</b>	Part 91: General aviation - Skydiving		

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## Analysis

The pilot stated that he departed the airport with six parachutists for a jump flight. As the airplane approached 1,000 feet above ground level, he noticed that the airplane wasn't climbing. He checked the engine gauges and noticed that the engine analyzer was flashing "CHT" and the cylinder head temperature was 454 degrees F. As the pilot pitched the nose down and turned back to the airport, he heard a muffled "thud" sound and saw white smoke pour from the engine. As he prepared for a forced landing, four of the parachutists jumped from the airplane. The pilot then performed a forced landing in a field, coming to a stop near a dirt berm. An examination revealed a hole in the engine crankcase, near the No. 4 cylinder. Various pieces of metal, including part of a "quick oil drain plug" were found in the engine oil sump. The No. 4 connecting rod journal appeared distorted and displayed extensive heat signatures. The crankshaft journals on either side of the No. 4 rod journals did not appear to be distorted or to contain the same heat signatures and were coated with engine oil. The rod and crankshaft bearings were scored. The signatures on the engine were consistent with the loss of lubricant to the No. 4 connecting rod journal. A reason for the loss of engine oil to the journal was not found.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The loss of oil pressure to the No. 4 connecting rod journal and the subsequent loss of engine power.

## Findings

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Aircraft	(general) - Failure
Aircraft	Oil - Not specified

## Factual Information

### History of Flight

<b>Enroute-climb to cruise</b>	Loss of engine power (total) (Defining event)
<b>Emergency descent</b>	Off-field or emergency landing

On April 1, 2012, about 1515 central daylight time, a Cessna U206B airplane, N3830G, experienced a loss of engine power shortly after departure from the Winterset Municipal Airport (3Y3), Winterset, Iowa. The commercial rated pilot and six passengers were not injured and the airplane sustained substantial damage. The airplane was registered to and operated by Des Moines Skydivers, LLC, Des Moines, Iowa under the provision of 14 Code of Federal Regulation Part 91 as a parachute jump flight. Day visual meteorological conditions prevailed and the airplane was not on a flight plan.

The pilot reported that he departed the airport on a jump flight and turned crosswind, and headed north. When the airplane was about 1,000 feet above ground level, the airplane seemed to stop climbing, so he looked at the engine gauges and everything seemed normal. However, as he turned back to the engine analyzer, the analyzer was flashing “CHT” and the cylinder temperature read 454 degrees F. The pilot then pitched the airplane’s nose down to cool the engine, and turned back towards the airfield. The pilot heard a muffled “thud” sound and white smoke poured from the engine. The pilot pulled the mixture control, turned the ignition and master switches off. He then yelled for the jumpers to get out, and four of the parachutists were able to exit the airplane. He performed a forced landing in a plowed field and the airplane came to stop near a dirt berm.

The responding Federal Aviation Administration (FAA) inspector reported that the airplane sustained extensive firewall damage, when the nose landing gear was torn from the airplane during the forced landing. The inspector also noted that there was a hole in the engine’s crankcase near the number four cylinder.

The engine was removed from the airframe and sent to Continental Motor’s engine test facility, in Mobile, Alabama. The engine was examined under the supervision of the NTSB Investigator in Charge, and technical representatives from Continental Motors.

A visual exam of the engine confirmed the hole in the crankcase near the number four cylinder; the engine was then disassembled. Various pieces of metal, including part of a “quick oil drain plug” was found in the engine oil sump. The number four connecting rod journal appeared distorted and had displayed extensive heat signatures. The crankshaft journals on either side of the number four rod journals did not appear distorted nor contain the same heat signatures and were coated with engine oil. The rod and crankshaft bearings appeared scored. The crankcase and crankshaft oil galleys appeared open. A reason for the loss of engine oil to the

journal was not found.

A review of the engine maintenance log book revealed that the engine had approximately 3,233 total hours and about 1,730 hours since major overhaul.

### Pilot Information

<b>Certificate:</b>	Commercial	<b>Age:</b>	45, Male
<b>Airplane Rating(s):</b>	Single-engine land; Multi-engine land	<b>Seat Occupied:</b>	Left
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	
<b>Instrument Rating(s):</b>	Airplane	<b>Second Pilot Present:</b>	No
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 2 Without waivers/limitations	<b>Last FAA Medical Exam:</b>	September 29, 2011
<b>Occupational Pilot:</b>		<b>Last Flight Review or Equivalent:</b>	September 9, 2011
<b>Flight Time:</b>	1045 hours (Total, all aircraft), 177 hours (Total, this make and model), 981 hours (Pilot In Command, all aircraft), 20 hours (Last 90 days, all aircraft), 18 hours (Last 30 days, all aircraft), 7 hours (Last 24 hours, all aircraft)		

### Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	Cessna	<b>Registration:</b>	N3830G
<b>Model/Series:</b>	U206B	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	
<b>Airworthiness Certificate:</b>	Utility	<b>Serial Number:</b>	U206-0830
<b>Landing Gear Type:</b>	Tricycle	<b>Seats:</b>	6
<b>Date/Type of Last Inspection:</b>	March 22, 2012 Annual	<b>Certified Max Gross Wt.:</b>	
<b>Time Since Last Inspection:</b>		<b>Engines:</b>	1 Reciprocating
<b>Airframe Total Time:</b>	6966 Hrs at time of accident	<b>Engine Manufacturer:</b>	CONT MOTOR
<b>ELT:</b>	Installed, activated, did not aid in locating accident	<b>Engine Model/Series:</b>	IO 520 SERIES
<b>Registered Owner:</b>	DES MOINES SKYDIVERS LLC	<b>Rated Power:</b>	285 Horsepower
<b>Operator:</b>	DES MOINES SKYDIVERS LLC	<b>Operating Certificate(s) Held:</b>	None

## Meteorological Information and Flight Plan

<b>Conditions at Accident Site:</b>	Visual (VMC)	<b>Condition of Light:</b>	Day
<b>Observation Facility, Elevation:</b>	KDSM	<b>Distance from Accident Site:</b>	19 Nautical Miles
<b>Observation Time:</b>	14:54 Local	<b>Direction from Accident Site:</b>	45°
<b>Lowest Cloud Condition:</b>	Few / 25000 ft AGL	<b>Visibility</b>	
<b>Lowest Ceiling:</b>	None	<b>Visibility (RVR):</b>	
<b>Wind Speed/Gusts:</b>	10 knots /	<b>Turbulence Type Forecast/Actual:</b>	/
<b>Wind Direction:</b>	170°	<b>Turbulence Severity Forecast/Actual:</b>	/
<b>Altimeter Setting:</b>	29.54 inches Hg	<b>Temperature/Dew Point:</b>	29°C / 17°C
<b>Precipitation and Obscuration:</b>	No Obscuration; No Precipitation		
<b>Departure Point:</b>	Winterset, IA (3Y3 )	<b>Type of Flight Plan Filed:</b>	Unknown
<b>Destination:</b>	Winterset, IA (3Y3 )	<b>Type of Clearance:</b>	None
<b>Departure Time:</b>		<b>Type of Airspace:</b>	

## Airport Information

<b>Airport:</b>	Winterset Municipal Airport 3Y3	<b>Runway Surface Type:</b>	
<b>Airport Elevation:</b>		<b>Runway Surface Condition:</b>	
<b>Runway Used:</b>		<b>IFR Approach:</b>	None
<b>Runway Length/Width:</b>		<b>VFR Approach/Landing:</b>	Forced landing

## Wreckage and Impact Information

<b>Crew Injuries:</b>	1 None	<b>Aircraft Damage:</b>	Substantial
<b>Passenger Injuries:</b>	6 None	<b>Aircraft Fire:</b>	None
<b>Ground Injuries:</b>	N/A	<b>Aircraft Explosion:</b>	None
<b>Total Injuries:</b>	7 None	<b>Latitude, Longitude:</b>	41.329479,-94.01062(est)

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Hatch, Craig
<b>Additional Participating Persons:</b>	Harrison McNaughton; FAA FSDO; Des Moines, IA John Kent; Continental Motors; Mobile, AL
<b>Original Publish Date:</b>	April 25, 2013
<b>Last Revision Date:</b>	
<b>Investigation Class:</b>	<a href="#">Class</a>
<b>Note:</b>	
<b>Investigation Docket:</b>	<a href="https://data.nts.gov/Docket?ProjectID=83294">https://data.nts.gov/Docket?ProjectID=83294</a>

The National Transportation Safety Board (NTSB) is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant events in other modes of transportation—railroad, transit, highway, marine, pipeline, and commercial space. We determine the probable causes of the accidents and events we investigate, and issue safety recommendations aimed at preventing future occurrences. In addition, we conduct transportation safety research studies and offer information and other assistance to family members and survivors for each accident or event we investigate. We also serve as the appellate authority for enforcement actions involving aviation and mariner certificates issued by the Federal Aviation Administration (FAA) and US Coast Guard, and we adjudicate appeals of civil penalty actions taken by the FAA.

The NTSB does not assign fault or blame for an accident or incident; rather, as specified by NTSB regulation, “accident/incident investigations are fact-finding proceedings with no formal issues and no adverse parties ... and are not conducted for the purpose of determining the rights or liabilities of any person” (Title 49 *Code of Federal Regulations* section 831.4). Assignment of fault or legal liability is not relevant to the NTSB’s statutory mission to improve transportation safety by investigating accidents and incidents and issuing safety recommendations. In addition, statutory language prohibits the admission into evidence or use of any part of an NTSB report related to an accident in a civil action for damages resulting from a matter mentioned in the report (Title 49 *United States Code* section 1154(b)). A factual report that may be admissible under 49 *United States Code* section 1154(b) is available [here](#).