Aviation Investigation Final Report

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

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

Aircraft	(general) - Failure
Aircraft	Oil - Not specified

Factual Information

History of Flight

Enroute-climb to cruise	Loss of engine power (total) (Defining event)
Emergency descent	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

Certificate:	Commercial	**Age:**	45,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	
Instrument Rating(s):	Airplane	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	No
Medical Certification:	Class 2 Without waivers/limitations	**Last FAA Medical Exam:**	September 29, 2011
Occupational Pilot:		**Last Flight Review or Equivalent:**	September 9, 2011
Flight Time:	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

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

Meteorological Information and Flight Plan

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

Airport Information

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

Wreckage and Impact Information

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

Administrative Information

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