



National Transportation Safety Board Aviation Accident Final Report

Location:	Tomahawk, WI	Accident Number:	CHI08LA230
Date & Time:	08/01/2008, 1915 CDT	Registration:	N6520R
Aircraft:	CESSNA 172RG	Aircraft Damage:	Substantial
Defining Event:	Powerplant sys/comp malf/fail	Injuries:	2 Minor
Flight Conducted Under:	Part 91: General Aviation - Personal		

Analysis

The pilot reported that he noticed smoke in the cabin and turned back to the departure airport. Oil began to accumulate on the windshield, which obscured his forward visibility. He made a five-mile straight-in approach using the airplane's global positioning system. He said that he attempted to maintain 2,500 feet above mean sea level and began to lose engine power about three miles from the airport. The engine "sputtered then froze" about two miles from the airport. The pilot then made a forced landing on a field that the passenger saw out of his window. The pilot said that the airplane came to rest at the end of that field, where it impacted trees at about 30 knots. Subsequent to the accident the propeller and starter ring gear were removed. The oil plug on the nose of the engine case that covers the governor idler gear shaft was not in place and it was found in the cowling. A safety wire that had secured the oil plug was observed attached to engine case with a separation at its plug end.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: A total loss of engine power due to a loss of all of the engine's oil as a result of the safety wire on the governor idler gear shaft's oil plug breaking, leading to the oil plug coming unscrewed. Contributing to the accident was the lack of a suitable area for a forced landing.

Findings

Aircraft	Recip eng oil sys - Not specified (Cause) Oil - Fluid level (Cause)
Environmental issues	Terrain - Contributed to outcome (Factor)

Factual Information

On August 1, 2008, about 1915 central daylight time, a Cessna 172RG, N6520R, piloted by a private pilot, sustained substantial damage on impact with terrain following an in-flight loss of engine power near the Tomahawk Regional Airport (TKV), Tomahawk, Wisconsin. The personal flight was operating under 14 CFR Part 91. Visual meteorological conditions prevailed at the time of the accident. No flight plan was on file. The pilot and a passenger sustained minor injuries. The local flight originated from TKV about 1900.

The pilot reported that he and his passenger noticed light smoke in the cabin during cruise at 2,500 feet above mean sea level (MSL) about five miles east-northeast of TKV. He turned left to return to TKV and opened the windows to vent the cabin. He stated that all the airplane's instruments indicated normal. After the turn, oil began to accumulate on the windshield, which obscured his forward visibility. He made a five mile straight-in approach using the airplane's global positioning system. He said that he attempted to maintain 2,500 feet MSL and began to lose engine power about three miles from TKV. The engine "sputtered then froze" about two miles from TKV. The pilot made a forced landing on a field that the passenger saw out of his window. The pilot said that the airplane came to rest at the end of that field where it impacted trees at about 30 knots.

Subsequent to the accident, the propeller and starter ring gear were removed. The oil plug on the nose of the engine case that covers the governor idler gear shaft was not in place and it was found in the cowling. Safety wire that had secured the plug was observed attached to engine case with a separation at its plug end.

The pilot's safety recommendation stated he had accumulated 23 hours of simulated instrument training. He said, "Without the instrument time I am certain the loss of all forward visibility would have been unnerving."

History of Flight

Enroute-cruise	Powerplant sys/comp malf/fail (Defining event)
Emergency descent	Loss of engine power (partial)
	Loss of engine power (total)
	Off-field or emergency landing

Pilot Information

Certificate:	Private	Age:	51, Male
Airplane Rating(s):	Single-engine Land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	Seatbelt, Shoulder harness
Instrument Rating(s):	None	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 3 With Waivers/Limitations	Last Medical Exam:	10/22/2007
Occupational Pilot:	No	Last Flight Review or Equivalent:	07/23/2008
Flight Time:	119 hours (Total, all aircraft), 31 hours (Total, this make and model), 44 hours (Pilot In Command, all aircraft), 2 hours (Last 90 days, all aircraft), 2 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Manufacturer:	CESSNA	Registration:	N6520R
Model/Series:	172RG	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Normal	Serial Number:	172RG0189
Landing Gear Type:	Tricycle	Seats:	4
Date/Type of Last Inspection:	10/11/2007, Annual	Certified Max Gross Wt.:	2650 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:	6840 Hours	Engine Manufacturer:	LYCOMING
ELT:	C91 installed, activated, did not aid in locating accident	Engine Model/Series:	O-360-F1A6
Registered Owner:	6520R LLC	Rated Power:	180 hp
Operator:	6520R LLC	Air Carrier Operating Certificate:	None

Meteorological Information and Flight Plan

Observation Facility, Elevation:	RHI, 1624 ft msl	Observation Time:	1953 CDT
Distance from Accident Site:	17 Nautical Miles	Condition of Light:	Day
Direction from Accident Site:	55°	Conditions at Accident Site:	Visual Conditions
Lowest Cloud Condition:	Clear	Temperature/Dew Point:	22° C / 11° C
Lowest Ceiling:	None	Visibility	10 Miles
Wind Speed/Gusts, Direction:	5 knots, 340°	Visibility (RVR):	
Altimeter Setting:	29.91 inches Hg	Visibility (RVV):	
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	TOMAHAWK, WI (TKV)	Type of Flight Plan Filed:	None
Destination:		Type of Clearance:	None
Departure Time:	1900 CDT	Type of Airspace:	

Airport Information

Airport:	Tomahawk Regional Airport (TKV)	Runway Surface Type:	
Airport Elevation:	1487 ft	Runway Surface Condition:	
Runway Used:	N/A	IFR Approach:	None
Runway Length/Width:		VFR Approach/Landing:	Forced Landing

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		

Administrative Information

Investigator In Charge (IIC):	Edward F Malinowski	Adopted Date:	06/11/2009
Additional Participating Persons:	Chuck Ebert; Federal Aviation Administration; Milwaukee, WI		
Publish Date:	06/11/2009		
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 pubinq@ntsb.gov , or at 800-877-6799. Dockets released after this date are available at http://dms.nts.gov/pubdms/ .		

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