



# Aviation Investigation Final Report

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<b>Location:</b>	Lyons, Kansas	<b>Accident Number:</b>	DEN08LA103
<b>Date &amp; Time:</b>	June 12, 2008, 14:00 Local	<b>Registration:</b>	N9639G
<b>Aircraft:</b>	Cessna A188B	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>	Loss of engine power (partial)	<b>Injuries:</b>	1 None
<b>Flight Conducted Under:</b>	Part 137: Agricultural		

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## Analysis

Several days preceding the accident, the pilot experienced engine problems during an attempted aerial application flight. After maintenance was performed, the airplane underwent several engine test runs and a couple of test flights with no problems noted. On the day of the accident, the airplane was loaded with approximately 150 gallons of chemical. After takeoff, the pilot turned the airplane in a direction opposite of his intended destination in order to over fly the airport in case of an emergency. During the initial takeoff climb, the engine was running okay and no problems were noted. Approximately 1 to 1.5 miles from the airport, the engine "pulled down," and the pilot could not maintain altitude. The pilot stated, "I am now sure the engine was trying to seize up and I was again forced to land." The pilot elected to perform a forced landing to a field. During the forced landing, the airplane impacted a dirt embankment, went onto its nose, and came to rest upright. The reason for the loss of engine power was not determined.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: the loss of engine power for undetermined reasons. A contributing factor was the dirt embankment.

## Findings

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<b>Aircraft</b>	(general) - Malfunction
<b>Not determined</b>	(general) - Unknown/Not determined
<b>Environmental issues</b>	Rough terrain - Contributed to outcome

## Factual Information

### History of Flight

<b>Maneuvering</b>	Loss of engine power (partial) (Defining event)
<b>Emergency descent</b>	Off-field or emergency landing
<b>Landing</b>	Collision with terr/obj (non-CFIT)

On June 12, 2008, approximately 1400 central daylight time, a Cessna A188B single-engine agricultural airplane, N9639G, sustained substantial damage when it impact terrain during a forced landing following a loss of engine power near Lyons, Kansas. The airline transport pilot, who was the sole occupant, was not injured. The airplane was registered to Ellinwood Flying Service, Inc., Ellinwood, Kansas, and operated by Rice County Aerial Sprayers, Lyons, Kansas. Visual meteorological conditions prevailed, and a flight plan was not filed for the Title 14 Code of Federal Regulations Part 137 aerial application flight. The local flight was originating at the time of the accident.

According to the pilot, on May 26, 2008, he experienced an engine problem during an attempted aerial application flight, and landed successfully in an open field near the Lyons airport. After maintenance was performed which included new spark plugs, and checking the fuel and oil systems; the airplane underwent several engine test runs and a couple of test flights with no problems noted.

On the day of the accident, the airplane was loaded with approximately 150 gallons of chemical. After takeoff, the pilot turned the airplane in a direction opposite of his intended destination in order to over fly the airport in case of an emergency. During the initial takeoff climb, the engine was running okay and no problems were noted. Approximately 1 to 1.5 miles from the airport, the engine "pulled down," and the pilot could not maintain altitude. The pilot stated, "I am now sure the engine was trying to seize up and I was again forced to land." The pilot elected to perform a forced landing to a field. During the forced landing, the airplane impacted a dirt embankment, went onto its nose, and came to rest upright.

In 2002, the Continental IO-520-D engine underwent a major overhaul. At the time of the accident, the engine had accumulated approximately 600 hours since major overhaul. The engine underwent its most recent 100-hour inspection on January 15, 2008. Examination of the engine by a Federal Aviation Administration airworthiness inspector revealed no anomalies. The oil filter and oil screens were clear of debris. The reason for the loss of engine power was not determined.

## Pilot Information

<b>Certificate:</b>	Airline transport	<b>Age:</b>	62, Male
<b>Airplane Rating(s):</b>	Single-engine land; Multi-engine land	<b>Seat Occupied:</b>	Center
<b>Other Aircraft Rating(s):</b>	Helicopter	<b>Restraint Used:</b>	
<b>Instrument Rating(s):</b>	Airplane; Helicopter	<b>Second Pilot Present:</b>	No
<b>Instructor Rating(s):</b>	Airplane multi-engine; Airplane single-engine; Helicopter; Instrument airplane	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 2 With waivers/limitations	<b>Last FAA Medical Exam:</b>	November 1, 2007
<b>Occupational Pilot:</b>	Yes	<b>Last Flight Review or Equivalent:</b>	October 1, 2006
<b>Flight Time:</b>	14000 hours (Total, all aircraft), 449 hours (Total, this make and model), 14000 hours (Pilot In Command, all aircraft), 150 hours (Last 90 days, all aircraft), 100 hours (Last 30 days, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	Cessna	<b>Registration:</b>	N9639G
<b>Model/Series:</b>	A188B	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	
<b>Airworthiness Certificate:</b>	Restricted (Special)	<b>Serial Number:</b>	18801575
<b>Landing Gear Type:</b>	Tailwheel	<b>Seats:</b>	1
<b>Date/Type of Last Inspection:</b>	January 1, 2008 Annual	<b>Certified Max Gross Wt.:</b>	4000 lbs
<b>Time Since Last Inspection:</b>	59 Hrs	<b>Engines:</b>	1 Reciprocating
<b>Airframe Total Time:</b>	4360 Hrs at time of accident	<b>Engine Manufacturer:</b>	Continental
<b>ELT:</b>	Not installed	<b>Engine Model/Series:</b>	IO-520-D
<b>Registered Owner:</b>	Ellinwood Flying Service, Inc.	<b>Rated Power:</b>	300 Horsepower
<b>Operator:</b>	RICE COUNTY AERIAL SPRAYERS INC	<b>Operating Certificate(s) Held:</b>	On-demand air taxi (135)
<b>Operator Does Business As:</b>		<b>Operator Designator Code:</b>	R08G

## Meteorological Information and Flight Plan

<b>Conditions at Accident Site:</b>	Visual (VMC)	<b>Condition of Light:</b>	Day
<b>Observation Facility, Elevation:</b>		<b>Distance from Accident Site:</b>	
<b>Observation Time:</b>		<b>Direction from Accident Site:</b>	
<b>Lowest Cloud Condition:</b>	Clear	<b>Visibility</b>	10 miles
<b>Lowest Ceiling:</b>	None	<b>Visibility (RVR):</b>	
<b>Wind Speed/Gusts:</b>	3 knots /	<b>Turbulence Type Forecast/Actual:</b>	/
<b>Wind Direction:</b>	330°	<b>Turbulence Severity Forecast/Actual:</b>	/
<b>Altimeter Setting:</b>		<b>Temperature/Dew Point:</b>	27°C / 4°C
<b>Precipitation and Obscuration:</b>	No Obscuration; No Precipitation		
<b>Departure Point:</b>	Lyons, KS (LYO )	<b>Type of Flight Plan Filed:</b>	None
<b>Destination:</b>		<b>Type of Clearance:</b>	None
<b>Departure Time:</b>	13:50 Local	<b>Type of Airspace:</b>	

## Wreckage and Impact Information

<b>Crew Injuries:</b>	1 None	<b>Aircraft Damage:</b>	Substantial
<b>Passenger Injuries:</b>	N/A	<b>Aircraft Fire:</b>	None
<b>Ground Injuries:</b>	N/A	<b>Aircraft Explosion:</b>	None
<b>Total Injuries:</b>	1 None	<b>Latitude, Longitude:</b>	38.342777,-98.226669

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Sauer, Aaron
<b>Additional Participating Persons:</b>	Richard Stevens; Federal Aviation Administration; Wichita, KS
<b>Original Publish Date:</b>	December 8, 2008
<b>Last Revision Date:</b>	
<b>Investigation Class:</b>	<a href="#">Class</a>
<b>Note:</b>	
<b>Investigation Docket:</b>	<a href="https://data.ntsb.gov/Docket?ProjectID=68245">https://data.ntsb.gov/Docket?ProjectID=68245</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](#).