



# National Transportation Safety Board Aviation Accident Final Report

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<b>Location:</b>	EDGEWOOD, TX	<b>Accident Number:</b>	FTW98FA291
<b>Date &amp; Time:</b>	07/01/1998, 0923 CDT	<b>Registration:</b>	N9689A
<b>Aircraft:</b>	Cessna 140A	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>		<b>Injuries:</b>	1 Fatal
<b>Flight Conducted Under:</b>	Part 91: General Aviation - Personal		

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## Analysis

A witness observed the airplane taxi out and takeoff on runway 13. The witness reported that there were no unusual sounds coming from the engine. Two other witnesses north of the airport reported that they heard the airplane's engine 'sputtering.' The airplane was flying low over the trees at an altitude of approximately 50 to 60 feet above the ground. Both witnesses reported that prior to the airplane starting a turn toward the approach end of runway 13, the engine 'stop[ped].' As the airplane started to turn toward the runway, it 'took a nose dive' and impacted the ground. The fuel line from the gascolator to the carburetor was found fractured and separated from its fitting, which was still attached to the gascolator. An examination of the fuel line by an NTSB metallurgist revealed that, 'the fuel line separated through the flexible hose as a result of extensive wear.' According to entries in maintenance records, the aircraft's last annual inspection was completed on December 1, 1997, about 21.3 hours prior to the accident. Continuity was established to all flight controls.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's failure to maintain minimum required airspeed for flight. Factors were the worn fuel line, which separated, and the failure of the maintenance personnel to locate the worn fuel line during the annual inspection.

## Findings

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Occurrence #1: LOSS OF ENGINE POWER  
Phase of Operation: TAKEOFF - INITIAL CLIMB

### Findings

1. (F) FUEL SYSTEM,LINE - WORN
2. FUEL SYSTEM,LINE - SEPARATION
3. (F) MAINTENANCE,ANNUAL INSPECTION - INADEQUATE - OTHER MAINTENANCE PERSONNEL

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Occurrence #2: FORCED LANDING  
Phase of Operation: DESCENT - EMERGENCY

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Occurrence #3: LOSS OF CONTROL - IN FLIGHT  
Phase of Operation: MANEUVERING - TURN TO LANDING AREA (EMERGENCY)

### Findings

4. (C) AIRSPEED(VS) - NOT MAINTAINED - PILOT IN COMMAND
5. STALL/SPIN - INADVERTENT - PILOT IN COMMAND

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Occurrence #4: IN FLIGHT COLLISION WITH TERRAIN/WATER  
Phase of Operation: DESCENT - UNCONTROLLED

## Factual Information

### HISTORY OF FLIGHT

On July 1, 1998, at 0923 central daylight time, a Cessna 140A airplane, N9689A, was substantially damaged when it impacted the ground during a forced landing following the loss of engine power while on takeoff climb near Edgewood, Texas. The instrument rated commercial pilot, sole occupant of the airplane, was fatally injured. The airplane was registered to and operated by the pilot. Visual meteorological conditions prevailed, and a flight plan was not filed for the 14 Code of Federal Regulations (CFR) Part 91 cross-country flight. The flight had originated from the Thompson Field Airport, Canton, Texas, about 5 minutes prior to the accident.

A witness at the Thompson Field Airport reported to the NTSB investigator-in-charge (IIC) that she observed the airplane taxi to the approach end of runway 13 and taxi back to the vicinity of the hangar. She thought that the pilot was going to park the airplane. The airplane then turned around, taxied out, and departed on runway 13. The witness further reported that there were no unusual sounds coming from the engine as the airplane was taking off.

Witnesses near the accident site, north of the airport, reported to the NTSB IIC that they heard the airplane's engine "sputtering." One witness observed the airplane flying low over the trees. Both witnesses estimated that the altitude of the airplane was approximately 50 to 60 feet above the ground. The witnesses further reported that prior to the airplane starting a turn toward the approach end of runway 13, the engine "stop[ped]." As the airplane started to turn toward the runway, it "took a nose dive, hitting nose first, then right wing."

### PERSONNEL INFORMATION

The 68-year-old commercial pilot's last biennial flight review was on October 29, 1996, and it was accomplished in a Cessna 172 airplane. According to the pilot's flight logbook, as of June 25, 1998, he had accumulated a total flight time of 698.7 hours, of which 134.2 hours were logged in the accident airplane.

According to FAA records, the pilot held a valid second class medical certificate, issued May 26, 1998. The certificate stipulated a limitation to wear corrective lenses for distant vision, and possess corrective lenses for near vision when operating an aircraft.

### AIRCRAFT INFORMATION

The 1950 Cessna model 140A, serial number 15410, was equipped with a Continental O-200-A, 100 horsepower engine. Maintenance records showed that the engine was overhauled on February 15, 1990, tachometer time 426.96 hours, with a total engine time of 3,522.36 hours. According to entries in maintenance records, the last annual inspection was completed on December 1, 1997, tachometer time 635.9 hours, with a total aircraft time of 3,686.84 hours. The tachometer at the time of the accident showed 657.21 hours. A review of the airframe and engine records did not reveal evidence of any anomalies or uncorrected maintenance defects.

The son of the pilot reported to the NTSB IIC that he had flown the airplane the Sunday prior to the accident, and no discrepancies were noted. After his flight, the airplane was fueled and then parked.

### WRECKAGE IMPACT INFORMATION

Examination of the accident site revealed that the airplane impacted the ground on a measured magnetic heading of 262 degrees, and came to a stop 49.5 feet from the initial ground scar. The airplane came to rest upright on a measured magnetic heading of 358 degrees.

Examination of the airplane revealed that the front of the airplane from the firewall forward was displaced upward. The leading edges of both wings were crushed aft, and the wing tip of the right wing was bent aft.

Examination of the engine revealed that one propeller blade was bent slightly forward and the other blade was straight. Finger compression and continuity was established to all cylinders. Both magnetos were removed from the engine and sparked at all terminals when hand rotated. No fuel was found in the carburetor bowl; however, it was damp and had the smell of fuel. The gascolator bowl was broken and its filter screen was clear. The fuel line from the gascolator to the carburetor was fractured and separated from its fitting, which was attached to the gascolator. The fuel line and fitting were removed and sent to the NTSB Materials Laboratory for further examination.

Examination of the airplane's cockpit revealed that the throttle was at the idle position, the mixture control was full rich, the carburetor heat was off, the fuel selector was selecting both fuel tanks, and the ignition switch was selecting both magnetos. Continuity was established to all flight controls.

#### MEDICAL AND PATHOLOGICAL INFORMATION

The autopsy was performed at the Southwestern Institute Of Forensic Sciences, Dallas, Texas. There was no evidence found of any preexisting disease that could have contributed to the accident.

Toxicology analysis performed by the Civil Aeromedical Institute (CAMI), Oklahoma City, Oklahoma, was negative for drugs and alcohol.

#### SURVIVAL ASPECTS

The pilot had his seat belt fastened at the time of the accident; however, the aircraft was not equipped with shoulder harnesses.

#### TESTS AND RESEARCH

The fuel line was examined at the NTSB Materials Laboratory in Washington, D.C. Examination by an NTSB metallurgist revealed that, "the fuel line separated through the flexible hose as a result of extensive wear."

#### ADDITIONAL DATA

The airplane was released to the owner's son.

## Pilot Information

<b>Certificate:</b>	Commercial	<b>Age:</b>	68, 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
<b>Instrument Rating(s):</b>	Airplane	<b>Second Pilot Present:</b>	No
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	Yes
<b>Medical Certification:</b>	Class 3 Valid Medical--w/ waivers/lim.	<b>Last FAA Medical Exam:</b>	05/26/1998
<b>Occupational Pilot:</b>		<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>	699 hours (Total, all aircraft), 134 hours (Total, this make and model), 610 hours (Pilot In Command, all aircraft), 12 hours (Last 90 days, all aircraft), 11 hours (Last 30 days, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	Cessna	<b>Registration:</b>	N9689A
<b>Model/Series:</b>	140A 140A	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	No
<b>Airworthiness Certificate:</b>	Normal	<b>Serial Number:</b>	15410
<b>Landing Gear Type:</b>	Tailwheel	<b>Seats:</b>	2
<b>Date/Type of Last Inspection:</b>	12/01/1997, Annual	<b>Certified Max Gross Wt.:</b>	1500 lbs
<b>Time Since Last Inspection:</b>	21 Hours	<b>Engines:</b>	1 Reciprocating
<b>Airframe Total Time:</b>	3708 Hours	<b>Engine Manufacturer:</b>	Continental
<b>ELT:</b>	Installed, activated, did not aid in locating accident	<b>Engine Model/Series:</b>	O-200-A
<b>Registered Owner:</b>	ERNEST M. DEPUE	<b>Rated Power:</b>	100 hp
<b>Operator:</b>	ERNEST M. DEPUE	<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:	, 0 ft msl	Distance from Accident Site:	0 Nautical Miles
Observation Time:	0000	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:	/	Turbulence Type Forecast/Actual:	/
Wind Direction:		Turbulence Severity Forecast/Actual:	/
Altimeter Setting:		Temperature/Dew Point:	29° C
Precipitation and Obscuration:			
Departure Point:	CANTON, TX (1TA7)	Type of Flight Plan Filed:	None
Destination:	MESQUITE, TX (HQZ)	Type of Clearance:	None
Departure Time:	0920 CDT	Type of Airspace:	Class G

## Wreckage and Impact Information

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

## Administrative Information

Investigator In Charge (IIC):	DOUGLAS D WIGINGTON	Report Date:	02/16/2001
Additional Participating Persons:	FRED R RAYMOND; DALLAS, TX		
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:pubinquiry@ntsb.gov">pubinquiry@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](#).