



# National Transportation Safety Board Aviation Accident Final Report

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<b>Location:</b>	MASON CITY, IA	<b>Accident Number:</b>	CHI00LA286
<b>Date &amp; Time:</b>	09/01/2000, 1110 CDT	<b>Registration:</b>	N8304C
<b>Aircraft:</b>	Piper PA-32R-300	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>		<b>Injuries:</b>	1 None
<b>Flight Conducted Under:</b>	Part 135: Air Taxi & Commuter - Non-scheduled		

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## Analysis

During cruise flight the engine oil pressure dropped to zero and the engine began to vibrate. The pilot elected to shut-down the engine and perform a forced landing to a near by soy bean field. During the landing the left main and nose gear collapsed when they came into contact with the soft terrain. Post-accident investigation revealed that the oil filter base-gasket had become extruded from its seat, allowing engine oil to leak out of the engine. Textron Lycoming Engines, Williamsport, Pennsylvania, issued a Mandatory Service Bulletin, number 543A, the day prior to the accident. The service bulletin stated, "Textron Lycoming has received reports indicating that operation at high oil temperatures can cause the converter plate gasket on the oil filter base to become extruded from its seat, allowing oil to leak out between the plate and the accessory housing." The service bulletin called for the removal and replacement of the converter plate gasket at every 50-hour oil change.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: the unsuitable terrain for landing encountered by the pilot and the failure of the oil filter converter plate gasket. Factors to the accident were the total loss of oil and the soft terrain condition.

## Findings

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Occurrence #1: LOSS OF ENGINE POWER

Phase of Operation: CRUISE

Findings

1. (C) LUBRICATING SYSTEM,OIL GASKET - FAILURE
2. (F) FLUID,OIL - LOSS,TOTAL

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Occurrence #2: FORCED LANDING

Phase of Operation: DESCENT - EMERGENCY

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Occurrence #3: ON GROUND/WATER ENCOUNTER WITH TERRAIN/WATER

Phase of Operation: LANDING

Findings

3. (F) TERRAIN CONDITION - SOFT
4. (C) UNSUITABLE TERRAIN OR TAKEOFF/LANDING/TAXI AREA - ENCOUNTERED - PILOT IN COMMAND

## Factual Information

On September 1, 2000, at 1110 central daylight time, a Piper PA-32R-300, N8304C, operated by Safewing Aviation Company, Kansas City, Missouri, sustained substantial damage during landing following a loss of engine power and subsequent forced landing near Mason City, Iowa. Visual meteorological conditions prevailed at the time of the accident. The cargo flight was operating under the provisions of 14 CFR Part 135 and was on an instrument flight rules (IFR) flight plan. The pilot, the sole occupant, reported no injuries. The flight departed Algona Municipal Airport, Algona, Iowa, at 1050.

According to the pilot's written statement, "I departed AXA [Algona Municipal Airport] at 10:50 and was cruising at 4000 ft. [feet] 15 miles west of MCW [Mason City Municipal Airport] when the oil pressure dropped below 0 [zero]. The engine started vibrating so I shut it down and proceeded to set myself up for an emergency landing." The pilot reported, "I turned into the wind and aligned myself with a soy bean field. On impact the left main gear collapsed, also the nose gear, the left wing was bent backward a few inches. The soy bean field was muddy since it had been raining earlier."

Post-accident investigation revealed that the oil filter base-gasket had become extruded from its seat, allowing engine oil to leak out of the engine.

Textron Lycoming Engines, Williamsport, Pennsylvania, issued a Mandatory Service Bulletin, number 543A, on August 30, 2000. The service bulletin stated, "Textron Lycoming has received reports indicating that operation at high oil temperatures can cause the converter plate gasket on the oil filter base to become extruded from its seat, allowing oil to leak out between the plate and the accessory housing." The service bulletin called for the removal and replacement of the converter plate gasket at every 50-hour oil change.

## Pilot Information

<b>Certificate:</b>	Commercial	<b>Age:</b>	31, Male
<b>Airplane Rating(s):</b>	Multi-engine Land; Single-engine Land	<b>Seat Occupied:</b>	Left
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	Seatbelt, Shoulder harness
<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 1 Valid Medical--no waivers/lim.	<b>Last FAA Medical Exam:</b>	05/24/2000
<b>Occupational Pilot:</b>		<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>	1800 hours (Total, all aircraft), 1000 hours (Total, this make and model), 1650 hours (Pilot In Command, all aircraft), 160 hours (Last 90 days, all aircraft), 75 hours (Last 30 days, all aircraft), 5 hours (Last 24 hours, all aircraft)		

## Aircraft and Owner/Operator Information

Aircraft Make:	Piper	Registration:	N8304C
Model/Series:	PA-32R-300 PA-32R-300	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Normal	Serial Number:	32R-7680091
Landing Gear Type:	Retractable - Tricycle	Seats:	5
Date/Type of Last Inspection:	08/20/2000, 100 Hour	Certified Max Gross Wt.:	3600 lbs
Time Since Last Inspection:	51 Hours	Engines:	1 Reciprocating
Airframe Total Time:	8461 Hours	Engine Manufacturer:	Lycoming
ELT:	Installed, activated, did not aid in locating accident	Engine Model/Series:	IO-540-K1A5D
Registered Owner:	DELTA SALES COMPANY	Rated Power:	300 hp
Operator:	DELTA SALES COMPANY	Operating Certificate(s) Held:	None
Operator Does Business As:	SAFEWING AVIATION COMPANY	Operator Designator Code:	DD5A

## Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	MCW, 1213 ft msl	Distance from Accident Site:	90 Nautical Miles
Observation Time:	1107 CDT	Direction from Accident Site:	15°
Lowest Cloud Condition:	Scattered / 2200 ft agl	Visibility	6 Miles
Lowest Ceiling:	Overcast / 6000 ft agl	Visibility (RVR):	0 ft
Wind Speed/Gusts:	15 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	360°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30 inches Hg	Temperature/Dew Point:	64° C / 63° C
Precipitation and Obscuration:			
Departure Point:	ALGONA, IA (AXA)	Type of Flight Plan Filed:	IFR
Destination:	(MCW)	Type of Clearance:	IFR
Departure Time:	1050 CDT	Type of Airspace:	Class G

## Wreckage and Impact Information

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

## Administrative Information

**Investigator In Charge (IIC):** ANDREW T FOX **Report Date:** 10/09/2001

**Additional Participating Persons:** DONALD LAND; DES MOINES, IA

**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 [pubinq@ntsb.gov](mailto:pubinq@ntsb.gov), or at 800-877-6799. Dockets released after this date are available at <http://dms.nts.gov/pubdms/>.

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](#).