



# Aviation Investigation Final Report

<b>Location:</b>	LUDINGTON, Michigan	<b>Accident Number:</b>	CHI95LA332
<b>Date &amp; Time:</b>	September 24, 1995, 20:19 Local	<b>Registration:</b>	N6725P
<b>Aircraft:</b>	PIPER PA-24-250	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>		<b>Injuries:</b>	1 Serious
<b>Flight Conducted Under:</b>	Part 91: General aviation - Personal		

## Analysis

THE PILOT REPORTED THAT HE 'RAN OUT OF FUEL,' APPROXIMATELY SIX MILES FROM HIS DESTINATION AIRPORT. HE 'TURNED THE AIRPLANE INTO THE WIND' AND ATTEMPTED A FORCED LANDING IN A PLOWED FIELD. THE PILOT SAID THAT HE HAD TAKEN OFF KNOWING THAT HE WAS 'PROBABLY STRETCHING HIS FUEL TO REACH HIS PLANNED DESTINATION.' THE PILOT DID NOT REFUEL THE AIRPLANE PRIOR TO TAKEOFF. EXAMINATION OF THE WRECKAGE SHOWED EVIDENCE INDICATIVE OF A HARD FLAT IMPACT. THERE WAS NO EVIDENCE OF FUEL AT THE ACCIDENT SITE. EXAMINATION OF THE FUEL SYSTEM SHOWED NO EVIDENCE OF FUEL PRIOR TO IMPACT.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: fuel exhaustion resulting from the pilot's inaccurate fuel calculations and the failure to refuel the airplane prior to takeoff. An additional cause was the stall/mush during the forced landing.

### Findings

Occurrence #1: LOSS OF ENGINE POWER(TOTAL) - NONMECHANICAL  
Phase of Operation: CRUISE

#### Findings

1. (C) FLUID,FUEL - EXHAUSTION
2. (C) REFUELING - NOT PERFORMED - PILOT IN COMMAND

3. (C) FUEL CONSUMPTION CALCULATIONS - INACCURATE - PILOT IN COMMAND

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Occurrence #2: FORCED LANDING

Phase of Operation: EMERGENCY DESCENT/LANDING

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Occurrence #3: LOSS OF CONTROL - IN FLIGHT

Phase of Operation: EMERGENCY DESCENT/LANDING

Findings

4. (C) AIRSPEED - NOT MAINTAINED - PILOT IN COMMAND

5. (C) STALL/MUSH - INADVERTENT - PILOT IN COMMAND

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Occurrence #4: IN FLIGHT COLLISION WITH TERRAIN/WATER

Phase of Operation: DESCENT - UNCONTROLLED

## Factual Information

On September 24, 1995, at 2019 eastern daylight time (edt), a Piper PA-24-250, N6725P, piloted by a private pilot, sustained substantial damage during a forced landing to a plowed field. Visual meteorological conditions prevailed at the time of the accident. The flight was operated under 14 CFR Part 91. A flight plan was not on file. The pilot sustained serious injuries. The flight departed Rochester, New York, at 1745 edt, and was en route to Ludington, Michigan.

The pilot reported that he was approximately six miles from his destination airport at 2200 feet mean sea level when he "ran out of fuel." He turned on the fuel pump and switched tanks with no success. The pilot stated that he then "turned the airplane into the wind and looked for a place to put the airplane down." He selected a plowed field to do a forced landing in, but had to clear trees in front of him to reach it. The pilot stated that he was knocked unconscious at impact. In a subsequent telephone conversation with the pilot, he said that he had taken off knowing that he was "probably stretching his fuel to reach his planned destination," but felt that he could "get fuel somewhere en route."

The Federal Aviation Administration (FAA) inspector who examined the wreckage stated that the airplane "impacted in soft dirt and slid approximately 50 feet before coming to rest." The right main gear strut was found driven up through the right wing skin. The left main gear was bent outward and the nose gear was found separated from the rest of the airplane wreckage. The cowling and forward fuselage were bent underneath. Examination of the propeller showed one blade undamaged and the other blade bent aft. There were severe wrinkles observed throughout the skin of the airplane. The cabin was found intact, but the seats, control panel and luggage had been jarred loose. Examination of the flight controls showed no evidence of preimpact damage. There was no evidence of fuel at the accident site. Examination of the fuel system indicated no sign of fuel in the system prior to impact.

## Pilot Information

<b>Certificate:</b>	Private	<b>Age:</b>	49, 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>	
<b>Instrument Rating(s):</b>	None	<b>Second Pilot Present:</b>	No
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 3 Valid Medical--no waivers/lim.	<b>Last FAA Medical Exam:</b>	May 26, 1994
<b>Occupational Pilot:</b>	No	<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>	420 hours (Total, all aircraft), 56 hours (Total, this make and model), 341 hours (Pilot In Command, all aircraft), 31 hours (Last 90 days, all aircraft), 11 hours (Last 30 days, all aircraft), 2 hours (Last 24 hours, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	PIPER	<b>Registration:</b>	N6725P
<b>Model/Series:</b>	PA-24-250 PA-24-250	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	
<b>Airworthiness Certificate:</b>	Normal	<b>Serial Number:</b>	24-1852
<b>Landing Gear Type:</b>	Retractable - Tricycle	<b>Seats:</b>	4
<b>Date/Type of Last Inspection:</b>	January 1, 1995 Annual	<b>Certified Max Gross Wt.:</b>	2800 lbs
<b>Time Since Last Inspection:</b>	75 Hrs	<b>Engines:</b>	1 Reciprocating
<b>Airframe Total Time:</b>	2187 Hrs	<b>Engine Manufacturer:</b>	LYCOMING
<b>ELT:</b>	Installed, activated, did not aid in locating accident	<b>Engine Model/Series:</b>	O-540-A1D5
<b>Registered Owner:</b>	DAVID R. KIEFER	<b>Rated Power:</b>	250 Horsepower
<b>Operator:</b>		<b>Operating Certificate(s) Held:</b>	None
<b>Operator Does Business As:</b>		<b>Operator Designator Code:</b>	

## Meteorological Information and Flight Plan

<b>Conditions at Accident Site:</b>	Visual (VMC)	<b>Condition of Light:</b>	Night/bright
<b>Observation Facility, Elevation:</b>	MBL ,620 ft msl	<b>Distance from Accident Site:</b>	20 Nautical Miles
<b>Observation Time:</b>	20:53 Local	<b>Direction from Accident Site:</b>	207°
<b>Lowest Cloud Condition:</b>	Scattered / 6000 ft AGL	<b>Visibility</b>	15 miles
<b>Lowest Ceiling:</b>	None	<b>Visibility (RVR):</b>	
<b>Wind Speed/Gusts:</b>	/	<b>Turbulence Type Forecast/Actual:</b>	/
<b>Wind Direction:</b>	0°	<b>Turbulence Severity Forecast/Actual:</b>	/
<b>Altimeter Setting:</b>	30 inches Hg	<b>Temperature/Dew Point:</b>	8°C / 4°C
<b>Precipitation and Obscuration:</b>	No Obscuration; No Precipitation		
<b>Departure Point:</b>	ROCHESTER , NY (ROC )	<b>Type of Flight Plan Filed:</b>	None
<b>Destination:</b>	(LDM )	<b>Type of Clearance:</b>	None
<b>Departure Time:</b>	00:00 Local	<b>Type of Airspace:</b>	Class E

## Airport Information

<b>Airport:</b>		<b>Runway Surface Type:</b>	
<b>Airport Elevation:</b>		<b>Runway Surface Condition:</b>	Soft
<b>Runway Used:</b>	0	<b>IFR Approach:</b>	None
<b>Runway Length/Width:</b>		<b>VFR Approach/Landing:</b>	Forced landing

## Wreckage and Impact Information

<b>Crew Injuries:</b>	1 Serious	<b>Aircraft Damage:</b>	Substantial
<b>Passenger Injuries:</b>		<b>Aircraft Fire:</b>	None
<b>Ground Injuries:</b>	N/A	<b>Aircraft Explosion:</b>	None
<b>Total Injuries:</b>	1 Serious	<b>Latitude, Longitude:</b>	43.949478,-86.440002(est)

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Bowling, David
<b>Additional Participating Persons:</b>	WOODY BEST; GRAND RAPIDS , MI
<b>Original Publish Date:</b>	December 19, 1995
<b>Last Revision Date:</b>	
<b>Investigation Class:</b>	<a href="#">Class</a>
<b>Note:</b>	
<b>Investigation Docket:</b>	<a href="https://data.nts.gov/Docket?ProjectID=10040">https://data.nts.gov/Docket?ProjectID=10040</a>

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