



# Aviation Investigation Final Report

<b>Location:</b>	ENGLEWOOD, Colorado	<b>Accident Number:</b>	DEN93FA032
<b>Date &amp; Time:</b>	March 13, 1993, 12:04 Local	<b>Registration:</b>	N4495W
<b>Aircraft:</b>	BEECH                      A36	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>		<b>Injuries:</b>	2 Fatal, 3 Serious
<b>Flight Conducted Under:</b>	Part 91: General aviation		

## Analysis

ON A TWO MILE FINAL, WHILE CONDUCTING A VISUAL APPROACH AT THE TERMINATION OF A CROSS COUNTRY FLIGHT, THE PILOT INFORMED THE TOWER HE WAS EXPERIENCING ENGINE PROBLEMS. THE AIRCRAFT IMPACTED IN A POND APPROXIMATELY ONE MILE FROM THE APPROACH END OF THE RUNWAY OF INTENDED LANDING. NO EVIDENCE OF FUEL WAS FOUND IN THE AIRCRAFT OR AROUND THE ACCIDENT SITE. ACCORDING TO THE AIRCRAFT OPERATING MANUAL THE AIRCRAFT PERFORMANCE CHARTS INDICATE ENDURANCE OF 4.4 TO 4.65 HOURS DEPENDING ON POWER SETTING. THE ACTUAL DURATION OF THE FLIGHT WAS 4.81 HOURS, INCLUDING APPROXIMATELY 15 MINUTES WHEN THE RADAR AND COMMUNICATIONS DATA INDICATE THE PILOT TO HAVE BEEN LOST AND DISORIENTED.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: POWER LOSS DUE TO FUEL EXHAUSTION AS A RESULT OF FAILING TO REFUEL EN ROUTE. FACTORS WERE: INACCURATE FUEL CONSUMPTION CALCULATIONS, LACK OF SUITABLE TERRAIN FOR A FORCED LANDING, LACK OF TOTAL EXPERIENCE IN THE TYPE OF AIRCRAFT BEING FLOWN, AND BECOMING LOST AND DISORIENTED.

## Findings

Occurrence #1: LOSS OF ENGINE POWER(TOTAL) - NONMECHANICAL  
Phase of Operation: APPROACH - VFR PATTERN - FINAL APPROACH

Findings

1. FLUID,FUEL - EXHAUSTION
2. (F) FUEL CONSUMPTION CALCULATIONS - INACCURATE - PILOT IN COMMAND
3. (C) REFUELING - NOT PERFORMED - PILOT IN COMMAND
4. (F) LACK OF TOTAL EXPERIENCE IN TYPE OF AIRCRAFT - PILOT IN COMMAND
5. (F) BECAME LOST/DISORIENTED - INADVERTENT - PILOT IN COMMAND

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Occurrence #2: FORCED LANDING

Phase of Operation: DESCENT - EMERGENCY

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Occurrence #3: IN FLIGHT COLLISION WITH TERRAIN/WATER

Phase of Operation: DESCENT - EMERGENCY

Findings

6. TERRAIN CONDITION - DIRT BANK/RISING EMBANKMENT
7. TERRAIN CONDITION - WATER
8. (F) TERRAIN CONDITION - NONE SUITABLE

## Factual Information

### Pilot Information

<b>Certificate:</b>	Commercial; Flight instructor	<b>Age:</b>	27, Male
<b>Airplane Rating(s):</b>	Single-engine land; Multi-engine land	<b>Seat Occupied:</b>	Left
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	
<b>Instrument Rating(s):</b>	Airplane	<b>Second Pilot Present:</b>	No
<b>Instructor Rating(s):</b>	Airplane single-engine; Instrument airplane	<b>Toxicology Performed:</b>	Yes
<b>Medical Certification:</b>	Class 1 Valid Medical--no waivers/lim.	<b>Last FAA Medical Exam:</b>	March 30, 1992
<b>Occupational Pilot:</b>	No	<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>	636 hours (Total, all aircraft), 3 hours (Total, this make and model), 506 hours (Pilot In Command, all aircraft), 4 hours (Last 90 days, all aircraft), 2 hours (Last 30 days, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	BEECH	<b>Registration:</b>	N4495W
<b>Model/Series:</b>	A36 A36	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	
<b>Airworthiness Certificate:</b>	Normal	<b>Serial Number:</b>	E-552
<b>Landing Gear Type:</b>	Retractable - Tricycle	<b>Seats:</b>	6
<b>Date/Type of Last Inspection:</b>	March 3, 1992 Annual	<b>Certified Max Gross Wt.:</b>	3600 lbs
<b>Time Since Last Inspection:</b>	82 Hrs	<b>Engines:</b>	1 Reciprocating
<b>Airframe Total Time:</b>	3032 Hrs	<b>Engine Manufacturer:</b>	CONTINENTAL
<b>ELT:</b>	Installed, activated, did not aid in locating accident	<b>Engine Model/Series:</b>	IO520-BA10
<b>Registered Owner:</b>	GRUVER, STEVEN AND JULIA	<b>Rated Power:</b>	285 Horsepower
<b>Operator:</b>	CENTERLINE AVIATION	<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>	Day
<b>Observation Facility, Elevation:</b>	APA ,5883 ft msl	<b>Distance from Accident Site:</b>	1 Nautical Miles
<b>Observation Time:</b>	12:07 Local	<b>Direction from Accident Site:</b>	360°
<b>Lowest Cloud Condition:</b>	Scattered / 7000 ft AGL	<b>Visibility</b>	50 miles
<b>Lowest Ceiling:</b>	Broken / 20000 ft AGL	<b>Visibility (RVR):</b>	
<b>Wind Speed/Gusts:</b>	9 knots /	<b>Turbulence Type Forecast/Actual:</b>	/
<b>Wind Direction:</b>	290°	<b>Turbulence Severity Forecast/Actual:</b>	/
<b>Altimeter Setting:</b>	29 inches Hg	<b>Temperature/Dew Point:</b>	4°C / -8°C
<b>Precipitation and Obscuration:</b>	No Obscuration; No Precipitation		
<b>Departure Point:</b>	ADDISON , TX (ADS )	<b>Type of Flight Plan Filed:</b>	IFR
<b>Destination:</b>		<b>Type of Clearance:</b>	IFR
<b>Departure Time:</b>	08:15 Local	<b>Type of Airspace:</b>	Class E

## Airport Information

<b>Airport:</b>	CENNTENIAL AIRPORT APA	<b>Runway Surface Type:</b>	Asphalt
<b>Airport Elevation:</b>	5883 ft msl	<b>Runway Surface Condition:</b>	Dry
<b>Runway Used:</b>	17	<b>IFR Approach:</b>	
<b>Runway Length/Width:</b>	7003 ft / 77 ft	<b>VFR Approach/Landing:</b>	Forced landing

## Wreckage and Impact Information

<b>Crew Injuries:</b>	1 Fatal	<b>Aircraft Damage:</b>	Substantial
<b>Passenger Injuries:</b>	1 Fatal, 3 Serious	<b>Aircraft Fire:</b>	None
<b>Ground Injuries:</b>	N/A	<b>Aircraft Explosion:</b>	None
<b>Total Injuries:</b>	2 Fatal, 3 Serious	<b>Latitude, Longitude:</b>	39.700504,-105.040786(est)

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Wiemeyer, Norman
<b>Additional Participating Persons:</b>	MONTY TAYLOR; DENVER , CO
<b>Original Publish Date:</b>	November 3, 1993
<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=18246">https://data.ntsb.gov/Docket?ProjectID=18246</a>

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