



Aviation Investigation Final Report

Location:	GUIDE ROCK, Nebraska	Accident Number:	CHI91FA259
Date & Time:	August 12, 1991, 12:41 Local	Registration:	N5145P
Aircraft:	PIPER PA-24-250	Aircraft Damage:	Destroyed
Defining Event:		Injuries:	2 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

THE PILOT WHO WAS NOT INSTRUMENT RATED WAS TRYING TO REMAIN VFR ON TOP WHEN HE ENCOUNTERED IMC AT 17,500 FEET. AIRCRAFT ENTERED AN UNCONTROLLED DESCENT AFTER THE PILOT TRIED TO MANEUVER TO REMAIN IN VMC. THE RIGHT WING SEPARATED FROM THE AIRCRAFT DURING DESCENT. THE PILOT WAS ABOVE 14,000 FEET FOR ONE HOUR. THE AIRCRAFT WAS NOT OXYGEN EQUIPPED, AND NO EVIDENCE OF PORTABLE OXYGEN WAS FOUND. THERE WAS NO RECORD OF A PREFLIGHT WEATHER BRIEFING. THE PILOT GOT AN INFLIGHT WEATHER BRIEFING 1.5 HOURS BEFORE THE CRASH IN WHICH VFR WAS NOT RECOMMENDED, AND A ROUTE OF FLIGHT TO AVOID THE WEATHER WAS SUGGESTED. A SECOND INFLIGHT WEATHER BRIEFING WAS OBTAINED 20 MINUTES BEFORE THE CRASH IN WHICH A ROUTE OF FLIGHT TO AVOID THE WEATHER WAS AGAIN SUGGESTED. PILOT CONTINUED UNTIL HE WAS IMC.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: SPATIAL DISORIENTATION, AND EXCEEDING THE DESIGN LIMITS OF THE AIRCRAFT. FACTORS RELATED TO THE ACCIDENT ARE INADEQUATE PREFLIGHT PLANNING, VFR FLIGHT INTO IMC, FLIGHT WEATHER AVOIDANCE ASSISTANCE NOT FOLLOWED, EXCESSIVE ALTITUDE, PHYSICAL IMPAIRMENT (ANOXIA/HYPOXIA), AND LACK OF TOTAL INSTRUMENT TIME.

Findings

Occurrence #1: LOSS OF CONTROL - IN FLIGHT

Phase of Operation: MANEUVERING

Findings

1. OXYGEN SYSTEM - NOT INSTALLED
2. (F) PREFLIGHT PLANNING/PREPARATION - INADEQUATE - PILOT IN COMMAND
3. (F) PHYSICAL IMPAIRMENT(ANOXIA/HYPOXIA) - PILOT IN COMMAND
4. (F) LACK OF TOTAL INSTRUMENT TIME - PILOT IN COMMAND
5. (F) IN FLIGHT WEATHER AVOIDANCE ASSISTANCE - NOT FOLLOWED - PILOT IN COMMAND
6. (C) SPATIAL DISORIENTATION - PILOT IN COMMAND
7. (F) VFR FLIGHT INTO IMC - ENCOUNTERED - PILOT IN COMMAND
8. (F) ALTITUDE - EXCESSIVE - PILOT IN COMMAND

Occurrence #2: AIRFRAME/COMPONENT/SYSTEM FAILURE/MALFUNCTION

Phase of Operation: DESCENT - UNCONTROLLED

Findings

9. WING - FAILURE, TOTAL
10. (C) DESIGN STRESS LIMITS OF AIRCRAFT - EXCEEDED - PILOT IN COMMAND

Occurrence #3: IN FLIGHT COLLISION WITH TERRAIN/WATER

Phase of Operation: DESCENT - UNCONTROLLED

Findings

11. TERRAIN CONDITION - CROP

Factual Information

Pilot Information

Certificate:	Private	Age:	57, Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	
Instrument Rating(s):	None	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	Yes
Medical Certification:	Class 3 Valid Medical-w/ waivers/lim	Last FAA Medical Exam:	November 14, 1989
Occupational Pilot:	No	Last Flight Review or Equivalent:	
Flight Time:	817 hours (Total, all aircraft), 172 hours (Total, this make and model), 756 hours (Pilot In Command, all aircraft), 18 hours (Last 90 days, all aircraft), 3 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	PIPER	Registration:	N5145P
Model/Series:	PA-24-250 PA-24-250	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	24-161
Landing Gear Type:	Retractable - Tricycle	Seats:	4
Date/Type of Last Inspection:	March 20, 1991 Annual	Certified Max Gross Wt.:	2800 lbs
Time Since Last Inspection:	20 Hrs	Engines:	1 Reciprocating
Airframe Total Time:	2441 Hrs	Engine Manufacturer:	LYCOMING
ELT:	Installed, not activated	Engine Model/Series:	O-540-A1C5
Registered Owner:	THOMAS K. PHELPS	Rated Power:	250 Horsepower
Operator:	THOMAS K. PHELPS	Operating Certificate(s) Held:	None
Operator Does Business As:		Operator Designator Code:	

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	HSI ,1954 ft msl	Distance from Accident Site:	30 Nautical Miles
Observation Time:	12:54 Local	Direction from Accident Site:	350°
Lowest Cloud Condition:	Scattered / 500 ft AGL	Visibility	5 miles
Lowest Ceiling:	Overcast / 4000 ft AGL	Visibility (RVR):	
Wind Speed/Gusts:	4 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	190°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30 inches Hg	Temperature/Dew Point:	18°C / 17°C
Precipitation and Obscuration:	N/A - None - Fog		
Departure Point:	SPEARFISH , SD (SPF)	Type of Flight Plan Filed:	None
Destination:	FAYETTEVILLE , AR (FYV)	Type of Clearance:	None
Departure Time:	09:00 Local	Type of Airspace:	Class G

Airport Information

Airport:		Runway Surface Type:	
Airport Elevation:		Runway Surface Condition:	
Runway Used:	0	IFR Approach:	None
Runway Length/Width:		VFR Approach/Landing:	None

Wreckage and Impact Information

Crew Injuries:	1 Fatal	Aircraft Damage:	Destroyed
Passenger Injuries:	1 Fatal	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	2 Fatal	Latitude, Longitude:	40.070598,-98.320777(est)

Administrative Information

Investigator In Charge (IIC):	Doub jr., Mark
Additional Participating Persons:	BOB BOTTOM; LINCOLN , NE PAT KNIGHT; LINCOLN , NE BILL NEWBY; LINCOLN , NE DON CAMPBELL; WICHITA , KS
Original Publish Date:	April 8, 1993
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=14915

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](#).