



# National Transportation Safety Board Aviation Accident Final Report

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<b>Location:</b>	SEA ISLE CITY, NJ	<b>Accident Number:</b>	BF094FA163
<b>Date &amp; Time:</b>	08/14/1994, 2303 EDT	<b>Registration:</b>	N3642A
<b>Aircraft:</b>	PIPER PA-601P	<b>Aircraft Damage:</b>	Destroyed
<b>Defining Event:</b>		<b>Injuries:</b>	4 Fatal
<b>Flight Conducted Under:</b>	Part 91: General Aviation - Personal		

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## Analysis

WHILE IN CRUISE FLIGHT IN A LEVEL SIX THUNDERSTORM OVER THE ATLANTIC OCEAN, THE PILOT REPORTED THE AIRPLANE'S 'GYRO' HAD FAILED. THE AIRPLANE THEN BEGAN A LEFT TURN AND DISAPPEARED OFF RADAR. THE AIRPLANE AND ITS OCCUPANTS WERE LOCATED ON THE OCEAN FLOOR ABOUT 48 DAYS AFTER THE ACCIDENT. THE AIRPLANE HAD BROKEN APART IN-FLIGHT. THE OUTBOARD SECTION OF EACH WING AND THE TAIL SECTION WERE NOT RECOVERED. THE AIRPLANE'S PNEUMATIC SYSTEM WAS DESTROYED. ACCORDING TO FSS RECORDS, THE PILOT HAD BEEN BRIEFED ON THE WEATHER ALONG HIS ROUTE OF FLIGHT.

## 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 aircraft control. Factors contributing to the accident were the presence of a level 6 thunderstorm, loss of gyro's for an undetermined reason, and the pilot's poor weather evaluation.

## Findings

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Occurrence #1: IN FLIGHT ENCOUNTER WITH WEATHER  
Phase of Operation: CRUISE - NORMAL

### Findings

1. (F) WEATHER CONDITION - THUNDERSTORM
  2. (F) WEATHER EVALUATION - POOR - PILOT IN COMMAND
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Occurrence #2: AIRFRAME/COMPONENT/SYSTEM FAILURE/MALFUNCTION  
Phase of Operation: CRUISE - NORMAL

### Findings

3. (F) FLIGHT/NAV INSTRUMENTS - FAILURE
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Occurrence #3: LOSS OF CONTROL - IN FLIGHT  
Phase of Operation: CRUISE - NORMAL

### Findings

4. (C) AIRCRAFT CONTROL - NOT MAINTAINED - PILOT IN COMMAND
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Occurrence #4: IN FLIGHT COLLISION WITH TERRAIN/WATER  
Phase of Operation: DESCENT - UNCONTROLLED

### Findings

5. TERRAIN CONDITION - WATER

## Factual Information

### HISTORY OF THE FLIGHT

On August 14, 1994, about 2310 eastern daylight time, a Piper, PA-601P, N3642A, collided with the water of the Atlantic Ocean, about 37 miles southeast of Sea Isle City, New Jersey. Thunderstorm and instrument meteorological conditions prevailed. A portion of the airplane and its occupants were located and recovered from the ocean floor on October 1, 1994, at a latitude of 38 degrees 48.4 minutes north and a longitude of 74 degrees 16.65 minutes west. The airplane was destroyed. The personal flight originated from North Myrtle Beach, South Carolina, about 2128, and was destined for Oxford, Connecticut. An instrument flight rules flight plan was on file for the flight. The flight was conducted under 14 CFR Part 91.

According to Washington Air Route Traffic Control Center (ARTCC) personnel, the flight departed North Myrtle Beach and continued North along the east coast with no reported unusual events. Washington ARTCC communications tape transcription revealed that at 2230, about one hour after departure, the pilot was in radio contact with the Washington ARTCC R54 sector controller and was advised of weather along his planned route of flight (along the east coast direct to MANTA intersection, direct to Oxford). The pilot stated, "Okay uh four two alpha will accept uh whatever routing you think might be uh better from this point." The R54 controller responded, "...I'm not sure how far out over the water you're gonna need to deviate so I mean I don't uh and if you go around the west side of the weather I'm not sure that you can even get in from that direction I don't know what the weather's like up at Oxford right now." The pilot acknowledged the transmission and reported that his airplane was equipped with weather radar. The pilot requested and was cleared to deviate 20 degrees to the east. The R54 controller also cleared N3642A to fly direct to the MANTA intersection (located about 75 miles northeast of Sea Isle City, New Jersey) "when able."

After about one hour and thirty minutes of flight (2256:41), about 37 miles southeast of Sea Isle City, New Jersey, at an assigned altitude of 19,000 feet, N3642A was handed off to the R58 sector controller who observed the airplane on radar tracking a southerly heading. When the pilot did not make radio contact with the R58 controller, the controller contacted the R54 controller and asked if he (the R54 controller) would try to contact the pilot. At 2301:15, the R54 controller made radio contact with the pilot and requested a position report. The pilot responded, "...Alpha has serious problems we lost gyro." About 33 seconds later, the controller stated, "...if you read the center uh uh suggest you uh southerly heading try...heading down towards Norfolk away from the weather."

At 2302:07, the pilot made an unintelligible transmission. This was the last recorded radio transmission made by the pilot and several attempts to reestablish radio contact with the pilot were unsuccessful.

National Tracking Analysis Program (NTAP) secondary radar data from the Washington ARTCC revealed the airplane was tracking northeasterly over the Atlantic Ocean, about 37 miles southeast of Sea Isle City, at 19,000 feet, when at 2300:20 the airplane began a left turn. The airplane continued a left turn and disappeared off radar at 2301:20.

### PILOT INFORMATION

The pilot held a private pilot certificate with single engine and multiengine land ratings. He also held an instrument airplane rating. The pilot's log book was not recovered. According to

Federal Aviation Administration (FAA) records, at the time of the pilot's last application for an FAA medical certificate, dated February 18, 1994, he had accumulated a total of 1,275 flight hours.

According to a certificated flight instructor (CFI), he gave the pilot a Biennial Flight Review in N3642A sometime in the month of March, 1994. The CFI stated that he was a friend of the pilot and gave the BFR as a favor and therefore did not record it in his own log book.

#### AIRPLANE INFORMATION

The airframe and engine received an annual inspection on August 3, 1994, at a tachometer time of 1458.3 hours. The tachometer was not found in the airplane wreckage.

#### METEOROLOGICAL CONDITIONS

Two Convective SIGMETs were issued by the National Severe Storms Forecast Center at Kansas City, Missouri, applicable to the route of flight of N3642A:

Issued August 14, 2155 EDT Convective SIGMET 5E Valid until August 14, 2355 EDT  
DE MD VA and Coastal Waters Line thunderstorms 30 miles wide moving from 270 degrees at 25 knots. Tops above 45,000 feet. Hail to 2 inches...wind gusts to 70 knots possible.

Issued August 14, 2255 EDT Convective SIGMET 9E Valid until August 15, 0055 EDT  
MD VA and Coastal Waters Line thunderstorms 30 miles wide moving from 300 degrees at 20 knots. Tops above 45,000 feet.

According to Anderson Automated Flight Service Station records, the pilot received two weather briefings prior to the flight. During the second briefing the pilot was given information on the above reported Convective SIGMET 9E.

Weather satellite information indicated N3642A was in the thunderstorm referred to in SIGMETs 5E and 9E when radio and radar contact were lost.

#### WRECKAGE AND IMPACT INFORMATION

A portion of the airplane was recovered from the ocean floor on October 1, 1994. Examination of the wreckage revealed that the fuselage, cabin area, and sections of the left and right wing with their respective engines were recovered. The tail section and outboard sections of both wings were not recovered.

The instrument panel was destroyed. The directional gyro was not recovered. The attitude indicator was recovered and the gyro casing was dismantled. The inside and outside of the gyro casing was eroded. The airplane's pneumatic system operating the gyro's was destroyed. Throttle, mixture, and propeller control levers were damaged and no reliable information was obtained.

The main fuselage was crushed and torn and the windows were missing. The outside, top portion of fuselage skin was flattened, dimpled, wrinkled, and crushed, indicative of hydrofoiling. Fuselage skin below the floor board was intact.

The left wing was separated just outboard of the engine and the outboard section of the wing was not recovered. The flap was found attached but due to the damage a flap setting could not be determined. The left wing's upper surface skin was wrinkled, dimpled, and crushed, indicative of hydrofoiling. The lower skin surfaces were crushed. The forward spar was elongated and stretched upward, and fracture surfaces revealed evidence of overstress

separation.

The left engine and its accessories were damaged and corroded. The magnetos, vacuum pump, and oil filter were not recovered. The propeller assembly was attached to the engine. Two of the three blades were twisted in a clockwise direction.

The right wing was separated just outboard of the engine and the outboard section of the wing was not recovered. The flap was found pulled away from the wing structure but remained attached to the wing by debris. The wing's forward spar fracture surfaces revealed features of overstress separation. The forward spar failure direction was not determined. Structure surrounding the spar was bent upward and aft.

The right engine and its accessories were damaged and corroded. The magnetos and oil filter were not recovered. The vacuum pump was recovered and examined. The vacuum pump was broken away from the engine mount. The engine driven shaft to the pump was missing and the flexible coupling had been separated from its other half. The pump's rotor and vanes were broken. The propeller assembly was attached to the engine. The propeller blades were feathered. Two of the three propeller blades were bent opposite of operating rotation.

#### ADDITIONAL INFORMATION

The National Transportation Safety Board did not take custody of the wreckage.

#### Pilot Information

<b>Certificate:</b>	Private	<b>Age:</b>	44, Male
<b>Airplane Rating(s):</b>	Multi-engine Land; Single-engine Land	<b>Seat Occupied:</b>	Unknown
<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>	None	<b>Toxicology Performed:</b>	
<b>Medical Certification:</b>	Class 2 Valid Medical--w/ waivers/lim.	<b>Last FAA Medical Exam:</b>	02/18/1994
<b>Occupational Pilot:</b>		<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>	1275 hours (Total, all aircraft)		

## Aircraft and Owner/Operator Information

Aircraft Make:	PIPER	Registration:	N3642A
Model/Series:	PA-601P PA-601P	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Normal	Serial Number:	61P-0823
Landing Gear Type:	Retractable - Tricycle	Seats:	6
Date/Type of Last Inspection:	08/03/1994, Annual	Certified Max Gross Wt.:	6000 lbs
Time Since Last Inspection:		Engines:	2 Reciprocating
Airframe Total Time:		Engine Manufacturer:	LYCOMING
ELT:	Installed, not activated	Engine Model/Series:	IO-540-S1A5
Registered Owner:	PIERPOINT, DAVID	Rated Power:	290 hp
Operator:	PIERPOINT, DAVID	Operating Certificate(s) Held:	None

## Meteorological Information and Flight Plan

Conditions at Accident Site:	Instrument Conditions	Condition of Light:	Night/Dark
Observation Facility, Elevation:	ACY, 76 ft msl	Distance from Accident Site:	37 Nautical Miles
Observation Time:	2250 EDT	Direction from Accident Site:	240°
Lowest Cloud Condition:	Thin Broken / 3000 ft agl	Visibility	4 Miles
Lowest Ceiling:	Overcast / 9500 ft agl	Visibility (RVR):	0 ft
Wind Speed/Gusts:	7 knots / 70 knots	Turbulence Type Forecast/Actual:	/
Wind Direction:	210°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29 inches Hg	Temperature/Dew Point:	21 °C / 21 °C
Precipitation and Obscuration:			
Departure Point:	MYRTLE BEACH, SC (CRE)	Type of Flight Plan Filed:	IFR
Destination:	OXFORD, CT (OXC)	Type of Clearance:	IFR
Departure Time:	2128 EDT	Type of Airspace:	Class E

## Airport Information

Airport:		Runway Surface Type:	
Airport Elevation:		Runway Surface Condition:	
Runway Used:	0	IFR Approach:	
Runway Length/Width:		VFR Approach/Landing:	

## Wreckage and Impact Information

Crew Injuries:	1 Fatal	Aircraft Damage:	Destroyed
Passenger Injuries:	3 Fatal	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	4 Fatal	Latitude, Longitude:	

## Administrative Information

Investigator In Charge (IIC):	MARGARET B NAPOLITAN,	Report Date:	10/13/1995
Additional Participating Persons:	JOHN KLAWIN; WINDSOR LOCKS, CT		
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:pubinq@ntsb.gov">pubinq@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](#).