



National Transportation Safety Board Aviation Accident Final Report

Location:	EAST HAMPTON, NY	Accident Number:	NYC94FA004
Date & Time:	10/06/1993, 1235 EDT	Registration:	N10GL
Aircraft:	PIPER PA-23-250	Aircraft Damage:	Destroyed
Defining Event:		Injuries:	2 Fatal
Flight Conducted Under:	Part 91: General Aviation - Instructional		

Analysis

THE FLIGHT, INVOLVING AN INSTRUCTOR AND STUDENT, CRASHED IN A WOODED AREA ABOUT A MILE SOUTHEAST OF RUNWAY 28 AT EAST HAMPTON AIRPORT. THE PILOT RADIOED 10 MILES WEST OF THE AIRPORT, REQUESTED, AND RECEIVED AIRPORT ADVISORIES. NO OTHER KNOWN RADIO CALLS WERE MADE BY THE PILOT. A WITNESS NEAR THE ACCIDENT SITE, FIRST HEARD AN AIRPLANE; LATER, HE HEARD THE ENGINE SOUNDS STOP. AFTER ABOUT ANOTHER 40 SECONDS, HE HEARD THE SOUND OF A CRASH. AN INVESTIGATION REVEALED THAT BOTH PROPELLERS WERE FEATHERED; AN EXAMINATION OF THE AIRPLANE DID NOT DISCLOSE EVIDENCE OF MECHANICAL MALFUNCTION. THE STUDENT WAS A 3500 HOUR COMMERCIAL CERTIFICATED PILOT WHO WAS TRAINING FOR A MULTIENGINE RATING. THE INVESTIGATION ALSO REVEALED THAT ON PREVIOUS TRAINING FLIGHTS, THE STUDENT HAD DEMONSTRATED A LACK OF PROFICIENCY IN THE PERFORMANCE OF SIMULATED INSTRUMENT AND EMERGENCY PROCEDURES. ALSO, THE INVESTIGATION REVEALED THAT THE STUDENT HAD PREVIOUSLY FLOWN A BEECH 95, WHICH HAD REVERSE PLACEMENT OF THROTTLES, PROPS, AND MIXTURE CONTROLS.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: INADVERTENT FEATHERING OF BOTH PROPELLERS BY THE STUDENT PILOT, WHICH RESULTED IN A LOSS OF POWER, AND FAILURE (OR INABILITY) OF THE INSTRUCTOR PILOT (CFI) TO ATTAIN REMEDIAL ACTION. A FACTOR RELATED TO THE ACCIDENT WAS: THE STUDENT PILOT'S HABIT INTERFERENCE, CONCERNING THE DIFFERENT POSITION OF THE ENGINE CONTROLS IN THIS AIRPLANE, AS COMPARED THE THE PREVIOUS AIRPLANE THAT HE HAD FLOWN.

Findings

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

Findings

1. ALL ENGINES
 2. (C) PROPELLER FEATHERING - INADVERTENT - DUAL STUDENT
 3. (F) HABIT INTERFERENCE - DUAL STUDENT
 4. (C) REMEDIAL ACTION - NOT ATTAINED - PILOT IN COMMAND(CFI)
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Occurrence #2: FORCED LANDING
Phase of Operation: DESCENT - EMERGENCY

Occurrence #3: IN FLIGHT COLLISION WITH OBJECT
Phase of Operation: LANDING

Findings

5. OBJECT - TREE(S)

Factual Information

HISTORY OF FLIGHT

On October 6, 1993, about 1235 eastern daylight time, a Piper PA-23-250, N10GL, piloted by a certified flight instructor [CFI] Mr. Daniel J. Marshall, and a second pilot Mr. Roy I. Arroll, collided with trees while in the traffic patten in preparation for landing at the East Hampton Airport, East Hampton, New York. The airplane was destroyed by the post impact fire. Both pilots were fatally injured. Visual meteorological conditions prevailed, and no flight plan had been filed. The flight was being conducted under 14 CFR 91.

The purpose of this flight was to provide multiengine training to Mr. Arroll. At approximately 1230, the pilot of N10GL, made radio contact with East Hampton Airport's UNICOM, and asked for advisories. The pilot indicated that he was 10 miles west of the airport. There was no other radio contact with the airplane.

A witness walking on a road near the accident site, Mr. Carl Hettiger, heard the airplane fly over head, but could not see it.

Mr. Hettiger wrote in his statement:

...about 30 seconds later [after first hearing the airplane] I heard no motor, thinking the plane turn[ed] the motor off to glide into [the] airport. About 30 to 40 seconds later I heard a loud noise like something blowing up...and saw a large column of black smoke.

The accident occurred during the hours of daylight approximately 40 degrees, 57 minutes north, and 72 degrees, 15 minutes west.

PERSONNEL INFORMATION

Mr. Daniel Marshall was born on June 5, 1931. He held Airline Transport Pilot Certificate, No. 61222812, with airplane mutiengine and airplane single engine land ratings; flight instructor, airplane single and multiengine, instrument airplane.

Mr. Marshall was issued a Second Class Airman Medical Certificate on June 3, 1993, with limitations, must wear corrective lenses.

Mr. Marshall's records showing his total flight hours were not located. It was estimated from information provided by the FAA that he had a total of 4,000 flight hours.

Mr. Roy Arroll was born on October 6, 1925. He held a Commercial Pilot Certificate, No. 1421054, with a single engine land and sea, instrument airplane ratings. Mr. Arroll was issued a Third Class Airman Medical Certificate on December 9, 1991, with limitations, must wear lenses for distant vision, and posses glasses for near vision.

Mr. Arroll's records showing his total flight hours were not located. It was estimated from information provided by the FAA that he had a total of 3,500 flight hours.

METEOROLOGICAL INFORMATION

There is no weather reporting station at the East Hampton Airport. Ms. Jodye Pulsonetti was operating the UNICOM at the time of the accident, and wrote in her statement, "It was a clear day with unrestricted visibility. We advised runway 28, wind NW at 4."

WRECKAGE AND IMPACT INFORMATION

The wreckage was examined at the accident site on October 5-6, 1993. The airplane impacted in a wooded area on the west side of Daniels Hole Road, approximately 150 yards from the road surface. The initial impact point was a tree approximately 75 feet above the ground. Directly under the tree was a red navigation light lens. Approximately 51 feet from initial impact with the tree the left outboard section, of the left wing, with the left fuel tank was lying near a second tree, that was struck about 25 feet above the ground. About 20 feet northeast of the second tree was the left horizontal stabilizer. The airplane continued on a path of 030 degrees for 18 feet, and came to rest inverted. After impacting the ground the airplane was engulfed in flames. The fire completely destroyed the airplane forward of the tail, rendering all the instruments, switches, and radios unreadable.

All of the fire damage was confined to the area around the main wreckage. Flight control continuity to all flight controls was established through the control cables. The tail section was lying inverted outside the fire area, and there was no heat or smoke damage observed on the vertical stabilizer, right horizontal stabilizer or the rudder. The rudder was deflected to the left, full travel to the stops. The rudder trim was deflected approximately two inches to the right, and displayed impact damage on the top of the trim tab. Both engines were inverted and had received heat damage from the fire. Both engines were removed from the accident site and examined. The blades on both propellers displayed no chordwise marks or twisting damage. The blades on both propellers were found in the feathered position. The spinner dome on the right propeller did not display any rotation damage; but was crushed against the leading edges of the blades, and cut out marks in the spinner.

MEDICAL AND PATHOLOGICAL INFORMATION

An autopsy was performed on both pilots, Mr. Daniel J. Marshall and Mr. Roy I. Arroll, on October 7, 1993, at the Suffolk County Medical Examiner's Office, Hauppauge, New York, by Dr. Gwen Harlaman. The autopsy revealed that the cause of death for both men was, "... smoke inhalation and thermal injuries..."

The toxicological tests on both men were conducted at the Federal Aviation Administration's (FAA), Toxicology and Accident Research Laboratory, Oklahoma City, Oklahoma and revealed, "... no drugs or alcohol were found."

TEST AND RESEARCH

The engines and propellers were removed from N10GL, and examined under the supervision of the NTSB. The engines were examined at Mattituck Airbase, Mattituck, New York, on November 3-4, 1993. The propellers were examined at Hartzell Propeller's facilities, Piqua, Ohio, on November 23, 1993.

Both engines were completely disassembled. All the interior and external parts were examined. Except for impact and post impact fire damage, no discrepancies were found with either engine.

Disassembly and examination of both propellers revealed that neither propeller spinner or propeller blades showed any signs of rotation at impact. Impact damage to the left propeller preload plates of blades L-1 and L-2 revealed that the left propeller was at or near the feather position at the time of impact. No internal impact marks were observed on the right propeller blade preload plates. It was determined that the spinner dome cut-out marks, made when at impact when the dome made contact against the leading edges of the blades, indicated that the blades were in feather when the dome was crushed. Examination of both propellers and both

propeller governors revealed no discrepancies.

ADDITIONAL INFORMATION

An inquiry into Mr. Arroll's airman records, written statements by a professional sales demonstration pilot, and a designated pilot examiner, revealed that Mr. Arroll was not rated or qualified in multiengine airplanes.

Mr. Robert Osinski, Chief Flight Instructor, Mid Island Air Service Inc., submitted a written statement reference Mr Arroll's pilot skills. According to Mr. Osinski's statement, he had administered a flight test to Mr. Arroll on August 23, 1992. Mr. Osinski wrote, that the flight was given in a Beechcraft BE-95 airplane, and that, "...Mr. Arroll's performance did not conform to the standards outlined in the Practical Test Standards for a Commercial Multiengine Instrument Pilot." According to Mr. Osinski's statement:

...under the hood for a VOR approach...[and] about 10 miles to the east of the VOR...I asked him to descend from three thousand feet to two thousand feet...direct to the VOR...level at two thousand feet I cleared him for the approach. I then pulled back the throttle on the left engine to simulate a engine failure. Mr. Arroll did not appear to following any emergency procedures...his heading and altitude were erratic to the point of not being able to track the VOR. After passing abeam the VOR Mr. Arroll started a left descending turn to the southeast. I took control of the aircraft when we were two miles to the southeast and down to eleven hundred feet and still in a decent. Mr. Arroll did not take any appropriate action for the emergency or fly the proper procedure turn for the...VOR approach...

After the flight Mr. Osinski debriefed Mr. Arroll, and suggested that he take additional instruction to improve his instrument procedures, and then proceed with the multiengine rating.

August, 1993, one year after the flight test, Mr. Arroll purchased Piper Aztec, N10GL, from Mid Island Air Service. Prior to the purchase Mr. Arroll was given a sales demonstration flight by Mr. Harry Bobb, on July 14, 1993. According to Mr. Bobb he gave Mr. Arroll about one and a half hours of ground school and about one hour of flight time in N10GL. According to Mr. Bobb's written statement reference the demonstration flight:

...VFR on top...visibility...10-15 miles...we were getting radar vectors...on a heading of about 060 [degrees] in level flight Mr. Arroll had lost control of the airplane (aircraft went into a steep descending turn)...I had to take over and bring the aircraft back to level flight, we lost about 300 feet and about 30 degrees of heading. After I recovered the aircraft I gave it back to him. [While receiving vectors] to intercept the localizer...he lost control of the aircraft again. "We lost about 400-600 feet this time." Again I recovered the aircraft and gave it back to him...he did the ILS and landed with help from me. He also had a hard time understanding the HSI in the aircraft and had a hard time holding the aircraft level.

Mr. Osinski said that when Mr. Arroll purchased Aztec N10GL, in August 1993, he "still didn't get a multiengine rating..." Mr. Osinski introduced Mr. Arroll to CFI Daniel Marshall, and Mr. Marshall agreed to give Mr. Arroll ground and flight instruction in Mr. Arroll's airplane.

According to Mr. Osinski, Mr. Marshall was employed by Mid Island Air Service since 1979, and had owned a Piper Aztec for many years, accumulating hundred of hours of experience in

type and model. Mr. Osinski described Mr. Marshall as, "...safe and thorough flight instructor with lots of patience, which was needed in this situation." Mr. Osinski told Mr. Marshall, "...not to rush because it would probably take twenty or thirty hours before Mr. Arroll might get comfortable in his new airplane, and then start working on engine out procedures..." Mr. Osinski further suggested to Mr. Marshall that they work on Mr. Arroll's VFR only multiengine rating first, "because it [the airplane] might be too much for him to handle at this time." Mr. Marshall flew with Mr. Arroll, and told Mr. Osinski that it was going take many hours, and that Mr. Marshall had discussed this with Mr. Arroll and he "concurred."

The wreckage was released to the East Hampton Police on October 7, 1993. On October 8, 1993 the East Hampton Police released the wreckage to insurance adjuster, Mr. Harry Brooks, representing the owner's Insurance Company. Both engines were released to the owner's representative Mr. Raymond Ladd [601-526-5632], on November 4, 1993. Both propellers were released to Hartzell Propeller for shipment to the owner's representative Mr. Raymond Ladd, on November 23, 1993.

Pilot Information

Certificate:	Airline Transport; Flight Instructor; Commercial	Age:	62, Male
Airplane Rating(s):	Multi-engine Land; Single-engine Land	Seat Occupied:	Right
Other Aircraft Rating(s):	None	Restraint Used:	Seatbelt
Instrument Rating(s):	Airplane	Second Pilot Present:	Yes
Instructor Rating(s):	Airplane Multi-engine; Airplane Single-engine; Instrument Airplane	Toxicology Performed:	Yes
Medical Certification:	Class 2 Valid Medical--w/ waivers/lim.	Last FAA Medical Exam:	06/03/1993
Occupational Pilot:		Last Flight Review or Equivalent:	
Flight Time:	4000 hours (Total, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	PIPER	Registration:	N10GL
Model/Series:	PA-23-250 PA-23-250	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Normal	Serial Number:	27-7854100
Landing Gear Type:	Retractable - Tricycle	Seats:	6
Date/Type of Last Inspection:	08/01/1993, Annual	Certified Max Gross Wt.:	5200 lbs
Time Since Last Inspection:		Engines:	2 Reciprocating
Airframe Total Time:	3650 Hours	Engine Manufacturer:	LYCOMING
ELT:	Installed	Engine Model/Series:	IO-540-C4B5
Registered Owner:	ROY I. ARROLL	Rated Power:	250 hp
Operator:	ROY I. ARROLL	Operating Certificate(s) Held:	None
Operator Does Business As:	ARROLL CORP.	Operator Designator Code:	

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	FOK, 67 ft msl	Distance from Accident Site:	9 Nautical Miles
Observation Time:	1240 EDT	Direction from Accident Site:	270°
Lowest Cloud Condition:	Clear / 0 ft agl	Visibility	15 Miles
Lowest Ceiling:	None / 0 ft agl	Visibility (RVR):	0 ft
Wind Speed/Gusts:	4 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	290°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30 inches Hg	Temperature/Dew Point:	11°C / 4°C
Precipitation and Obscuration:			
Departure Point:	ISLIP, NY (ISP)	Type of Flight Plan Filed:	None
Destination:	(ISP)	Type of Clearance:	
Departure Time:	1140 EDT	Type of Airspace:	Class D

Airport Information

Airport:	EAST HAMPTON (HTO)	Runway Surface Type:	Asphalt
Airport Elevation:	55 ft	Runway Surface Condition:	Dry
Runway Used:	28	IFR Approach:	
Runway Length/Width:	4242 ft / 75 ft	VFR Approach/Landing:	Forced Landing

Wreckage and Impact Information

Crew Injuries:	2 Fatal	Aircraft Damage:	Destroyed
Passenger Injuries:	N/A	Aircraft Fire:	On-Ground
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	2 Fatal	Latitude, Longitude:	

Administrative Information

Investigator In Charge (IIC):	ALAN J YURMAN	Report Date:	09/30/1994
Additional Participating Persons:	LESLIE TALKINGTON; FARMINGDALE, NY ROGER STALLCAMP; PIQUA, OH		
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 pubinquiry@ntsb.gov , or at 800-877-6799. Dockets released after this date are available at http://dms.nts.gov/pubdms/ .		

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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](#).