



# Aviation Investigation Final Report

<b>Location:</b>	DANVILLE, Indiana	<b>Accident Number:</b>	CHI95FA326
<b>Date &amp; Time:</b>	September 16, 1995, 15:05 Local	<b>Registration:</b>	N118AT
<b>Aircraft:</b>	PIPER PA-38-112	<b>Aircraft Damage:</b>	Destroyed
<b>Defining Event:</b>		<b>Injuries:</b>	2 Fatal
<b>Flight Conducted Under:</b>	Part 91: General aviation - Instructional		

## Analysis

Witnesses reported observing the airplane flying at an estimated altitude of 500 feet. Two witnesses reported hearing the engine sound increase. One witness reported hearing the engine 'restart.' The airplane descended in a 'loose spiral.' The nose came up and it turned to the right then 'sharply to the left...into a steep tight spiral.' It impacted the terrain going 'straight down.' Examination of the wreckage revealed symmetric crushing of the leading edges corresponding to an impact angle of approximately 30 degrees nose down. Evaluation of radar data revealed the airplane slowed to an airspeed of 50 knots at an altitude of 2,500 feet mean sea level (MSL). The angle of attack increased to 8.59 degrees and the airplane began a rapid descent. The airplane was at 1,500 feet MSL with a vertical velocity of approximately -9,000 feet per minute when the last radar return was received. No evidence of preimpact mechanical malfunction was found.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: the pilot-in-command's inadequate recovery while maneuvering.

## Findings

Occurrence #1: LOSS OF CONTROL - IN FLIGHT  
Phase of Operation: MANEUVERING

Findings

1. (C) REMEDIAL ACTION - INADEQUATE - PILOT IN COMMAND(CFI)
2. STALL/SPIN - INADVERTENT - PILOT IN COMMAND(CFI)

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Occurrence #2: IN FLIGHT COLLISION WITH TERRAIN/WATER  
Phase of Operation: DESCENT - UNCONTROLLED

## Factual Information

### HISTORY OF FLIGHT

On September 16, 1995, about 1505 eastern standard time, a Piper PA-38-112, N118AT, operated by American Trans Air Training Corporation, was destroyed when it impacted the terrain while maneuvering near Danville, Indiana. The commercial pilot and the dual student pilot sustained fatal injuries. The local, 14 CFR Part 91 instructional flight originated about 1442. Visual meteorological conditions prevailed and no flight plan was filed.

Witnesses reported observing the airplane flying in a northerly direction at an estimated altitude of 500 feet. Two witnesses reported hearing the engine sound increase. One witness reported hearing the engine "restart." The airplane descended in a "loose spiral." The nose came up and it turned to the right then "sharply to the left...into a steep tight spiral." It impacted the terrain going "straight down."

### WRECKAGE AND IMPACT INFORMATION

The NTSB on-scene investigation began about 1000 on September 17, 1995. The wreckage was located in a cornfield 1,340 feet east of county road 900E and 1,340 feet south of county road 900N on an easterly heading. All wreckage was located in an area approximately the size of the airplane. The corn immediately behind the airplane was undamaged. The ground and corn in front of the airplane was trampled.

The fuselage and leading edges of both wings wing were crushed aft at an angle corresponding to a pitch attitude of approximately 30 degrees nose down. The tail cone was buckled immediately forward of the empennage. The engine mount and firewall were bent downward approximately 90 degrees from the longitudinal axis.

The propeller remained attached to the engine. One blade exhibited minor aft bending at the midspan. Both blades exhibited chordwise scratches.

Engine continuity was verified and all four cylinders had compression. Both magnetos, the fuel pump, and the oil filter assembly were fractured from the accessory case. Visual inspection of the carburetor revealed no evidence of malfunction. The leads of both magnetos sparked when the shafts were turned by hand. The spark plugs exhibited normal wear.

Examination of flight control continuity revealed no evidence of preimpact malfunction. The flap handle was in the flaps up detent.

### MEDICAL AND PATHOLOGICAL INFORMATION

Autopsies were conducted at the Indiana University School of Medicine, Department of Pathology Forensic Division, 635 Barnhill Drive, Indianapolis, Indiana 46202. Toxicological testing of the flight instructor was negative for all tests conducted.

## TESTS AND RESEARCH

Radar data recorded by the Indianapolis Terminal Radar Approach Control Facility indicates the airplane departed the Indianapolis class C airspace on a westerly heading at 2,500 feet mean sea level (MSL). The radar data was evaluated using the "flight.exe" performance program. According to the output data from the program, the airplane slowed to an airspeed of 50 knots. The angle of attack increased to 8.59 degrees and the airplane began a rapid descent. The airplane was at 1,500 feet MSL with a vertical velocity of approximately -9,000 feet per minute when the last radar return was received.

## ADDITIONAL INFORMATION

Parties to the investigation were the Federal Aviation Administration Flight Standards District Office, Indianapolis Indiana, and The New Piper Aircraft, Inc., and American Trans Air Training Corporation.

Following the on-scene portion of the investigation, the wreckage was released to American Trans Air Training Corporation.

### Pilot Information

<b>Certificate:</b>	Commercial; Flight instructor	<b>Age:</b>	28, Male
<b>Airplane Rating(s):</b>	Single-engine land; Multi-engine land	<b>Seat Occupied:</b>	Right
<b>Other Aircraft Rating(s):</b>		<b>Restraint Used:</b>	
<b>Instrument Rating(s):</b>	Airplane	<b>Second Pilot Present:</b>	Yes
<b>Instructor Rating(s):</b>	Airplane single-engine	<b>Toxicology Performed:</b>	Yes
<b>Medical Certification:</b>	Class 1 Valid Medical—no waivers/lim.	<b>Last FAA Medical Exam:</b>	February 27, 1995
<b>Occupational Pilot:</b>	Yes	<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>	390 hours (Total, all aircraft), 182 hours (Total, this make and model), 331 hours (Pilot In Command, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	PIPER	<b>Registration:</b>	N118AT
<b>Model/Series:</b>	PA-38-112 PA-38-112	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	
<b>Airworthiness Certificate:</b>	Normal; Utility	<b>Serial Number:</b>	38-79A0136
<b>Landing Gear Type:</b>	Tricycle	<b>Seats:</b>	2
<b>Date/Type of Last Inspection:</b>	September 6, 1995 Annual	<b>Certified Max Gross Wt.:</b>	1680 lbs
<b>Time Since Last Inspection:</b>	35 Hrs	<b>Engines:</b>	1 Reciprocating
<b>Airframe Total Time:</b>	2220 Hrs	<b>Engine Manufacturer:</b>	LYCOMING
<b>ELT:</b>	Installed, not activated	<b>Engine Model/Series:</b>	O-235
<b>Registered Owner:</b>	AMERICAN TRANS AIR TRNG. CORP.	<b>Rated Power:</b>	112 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>	Day
<b>Observation Facility, Elevation:</b>	HUF	<b>Distance from Accident Site:</b>	
<b>Observation Time:</b>	15:00 Local	<b>Direction from Accident Site:</b>	
<b>Lowest Cloud Condition:</b>	Clear	<b>Visibility</b>	7 miles
<b>Lowest Ceiling:</b>	Overcast / 12000 ft AGL	<b>Visibility (RVR):</b>	
<b>Wind Speed/Gusts:</b>	12 knots /	<b>Turbulence Type Forecast/Actual:</b>	/
<b>Wind Direction:</b>	150°	<b>Turbulence Severity Forecast/Actual:</b>	/
<b>Altimeter Setting:</b>		<b>Temperature/Dew Point:</b>	23°C / 17°C
<b>Precipitation and Obscuration:</b>	No Obscuration; No Precipitation		
<b>Departure Point:</b>	INDIANAPOLIS , IN (IND )	<b>Type of Flight Plan Filed:</b>	None
<b>Destination:</b>		<b>Type of Clearance:</b>	VFR
<b>Departure Time:</b>	14:50 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>	
<b>Runway Used:</b>	0	<b>IFR Approach:</b>	None
<b>Runway Length/Width:</b>		<b>VFR Approach/Landing:</b>	None

## Wreckage and Impact Information

<b>Crew Injuries:</b>	2 Fatal	<b>Aircraft Damage:</b>	Destroyed
<b>Passenger Injuries:</b>		<b>Aircraft Fire:</b>	None
<b>Ground Injuries:</b>	N/A	<b>Aircraft Explosion:</b>	None
<b>Total Injuries:</b>	2 Fatal	<b>Latitude, Longitude:</b>	39.759502,-86.510284(est)

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Robbins, Wesley
<b>Additional Participating Persons:</b>	GILBERT B RILEY; INDIANAPOLIS , IN CHARLES R LITTLE; CHINO HILLS , CA DAVID BEAUREGARD; INDIANAPOLIS , IN JOSEPH H PING; INDIANAPOLIS , IN
<b>Original Publish Date:</b>	May 17, 1996
<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=9750">https://data.nts.gov/Docket?ProjectID=9750</a>

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