



# Aviation Investigation Final Report

<b>Location:</b>	NEW SMYRNA BCH, Florida	<b>Accident Number:</b>	MIA96FA186
<b>Date &amp; Time:</b>	July 15, 1996, 00:00 Local	<b>Registration:</b>	N65514
<b>Aircraft:</b>	Cessna 152	<b>Aircraft Damage:</b>	Destroyed
<b>Defining Event:</b>		<b>Injuries:</b>	1 Fatal
<b>Flight Conducted Under:</b>	Part 91: General aviation - Personal		

## Analysis

The pilot departed on a VFR flight and did not return to the departure airport. The airplane wreckage was located the following day. During examination of the airframe, flight controls, engine assembly, and accessories, no precrash failure or malfunction was found. The investigation revealed that the pilot had been admitted to a local hospital 2 days before the accident for gastroenteritis. His illness resulted in dehydration, disrupted sleep pattern, and inadequate nutrition. The prescription drug Phenergan (promethazine) was prescribed for the pilot. Toxicology tests of the pilot's blood showed 0.034 mcg/ml promethazine, and promethazine was detected in the pilot's urine. Promethazine produces side effects of drowsiness.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: the pilot's impairment of judgment and performance because of gastroenteritis and use of the prescription drug Phenergan (promethazine).

## Findings

Occurrence #1: IN FLIGHT COLLISION WITH OBJECT  
Phase of Operation: UNKNOWN

Findings  
1. OBJECT - TREE(S)

2. (C) ALTITUDE/CLEARANCE - NOT MAINTAINED - PILOT IN COMMAND
3. (C) PHYSICAL IMPAIRMENT - PILOT IN COMMAND
4. (C) IMPAIRMENT(DRUGS) - PILOT IN COMMAND

## Factual Information

### HISTORY OF FLIGHT

On July 15, 1996, a Cessna 152, N65514, registered to Air Lease Inc., leased by PHILAIR Flight Center, operating as a 14 CFR Part 91 personal flight, crashed at an undetermined time in the vicinity of New Smyrna Beach, Florida. Visual meteorological conditions prevailed and no flight plan was filed. The airplane was destroyed. The commercial pilot was fatally injured. The flight originated from the Daytona Beach International Airport, Daytona Beach, Florida, on July 15, 1996, at 1053 eastern daylight time. The airplane wreckage was located on July 16, 1996.

The owner of PHILAIR stated that the dispatch sheet for N65514 indicated that the airplane would return at "1200," and he interpreted that to mean that the airplane would return at midnight on July 15, 1996. The next morning when the airplane had not returned, PHILAIR initiated inquiries to the whereabouts of the aircraft and reported the airplane as missing to the FAA.

Review of the United States Air Force Rescue Communications Centers (AFRCC) Controller's Log revealed the search and rescue satellite aided tracking (SARSAT) received a first alert about 11 hours after N65514 departed Daytona Beach. The SARSAT merged on July 16, 1996. The Civil Air Patrol reported an emergency locator transmitter (ELT) signal to the AFRCC, and a Volusia County Sheriff's Department helicopter was dispatched to the area, and located the airplane wreckage at 1500.

### PERSONNEL INFORMATION

The investigation revealed that the commercial pilot had been admitted to a local hospital for gastroenteritis on July 13, 1996, and was released the following day. The pilot informed personnel at Embry Riddle Aeronautical University, Health Services Department, at 0800, on July 15, 1996, that he was dizzy, had been admitted to a hospital over the weekend, and was taking a prescription drug. The pilot was grounded and informed to return to the clinic on July 22, 1996. Additional information pertaining to the pilot is contained on page 3 of this report.

### AIRCRAFT INFORMATION

Review of the airframe maintenance records revealed the altimeter system and transponder was inspected on May 3, 1995. Review of the PHILAIR dispatch sheet indicates N65514 was dispatched with a tachometer reading of 5931.3 and at a Hobbs time of 2704.0. The tachometer reading at the crash site was 5931.9, and the Hobbs reading was 2704.5. For

additional information see page 2 of this report.

## METEROLOGICAL INFORMATION

Visual meteorological conditions prevailed at the time of the accident. For additional weather information see page 3 of this report.

## WRECKAGE AND IMPACT INFORMATION

The wreckage of N65514 was located in a wooded area 10 miles south of Daytona Beach International Airport, in the vicinity of New Smyrna Beach, Florida, about 1 mile south of State Road 44, and 3/4 mile east of Hunting Camp Road.

Examination of the crash site revealed the airplane collided with trees, 20 feet above the base of the trees while descending on a heading of about 315 degrees magnetic. The airplane continued forward, descending, and separated additional treetops 15 feet, and 11 feet 6 inches above the base of the trees. The left wing tip, left wing section, leading edge of the right wing, outboard section of the left aileron, and leading edge of the left wing separated from the airplane. The airplane collided with the ground on a heading of 308 degrees magnetic, 84 feet 6 inches from the initial point of impact, separating the outboard bottom right wing skin, right wing tip, inboard right aileron, and left bottom wing skin. The left and right fuel tanks ruptured, and the vegetation showed evidence of fuel spillage. The propeller separated from the propeller flange. Torsional twisting, "s" bending, and chordwise scarring was present on both propeller blades. The remaining airplane wreckage was scattered along the debris field extending 217 feet 6 inches from the initial point of impact. The airplane wreckage came to rest on its left side on a heading of 346 degrees magnetic.

Examination of the airframe, and flight controls revealed no evidence of a precrash mechanical failure or malfunction. All components necessary for flight were present at the crash site. Continuity of the flight control system was confirmed for pitch roll and yaw.

Examination of the engine assembly and accessories revealed no evidence of a precrash mechanical failure or malfunction. The top spark plugs were removed from all cylinders. Examination of the spark plug electrodes revealed the color, wear, and deposits were consistent with normal wear. The vacuum pump was removed and the crankshaft was rotated by hand through the drive pad. Thumb compression was observed on cylinders Nos. 2, 3, and 4. No compression was noted on cylinder No. 1. The bottom spark plug on cylinder No. 1 was broken off. The pushrod assemblies sustained impact damage, and their movement was limited. Clean uncontaminated oil was observed at the undamaged rockerbox areas. The bottom spark plugs were removed from all cylinders. Examination of the spark plug electrodes revealed the color, wear, and deposits were consistent with normal wear. All cylinders were removed, observed internally, and there was no evidence of any internal damage, valve sticking, or contact with the piston faces. Continuity was established throughout the engine rotating group. No oil or metal particles were found on the screen. The oil sump sustained

impact damage and oil was found under the engine on the ground.

Examination of the Airborne vacuum pump revealed the drive would turn freely by hand. The rotor and vanes were not damaged.

Examination of the vertical speed indicator revealed no evidence of a precrash failure or malfunction. The sector gear was engaged from the sector gear to the pointer gear shaft, and the diaphragm was not damaged.

Examination of the pressure altimeter revealed the outside knob was bent and the static port was broken. The factory seal was not installed; however, a tamper seal was installed. Disassembly revealed water and rust present throughout the altimeter. No evidence of water was present in front of the sealing gasket, and there was no sign of corrosion on the bezel. The sector pivots were broken. No tension was present on the hair spring to the sector and sector pointer. The hand staff holding the hundred foot pointer and hair spring wheel were rusted. There was no evidence of excessive end play on the top plate bridge due to rust, and no scarring was present on the top plate gear.

Examination of the Attitude gyro revealed the glass and attitude indicator display sustained impact damage, and the factory seal was not installed. Disassembly revealed the pitch actuator arm had separated from the rotor housing, and the tail shaft had separated from the yoke assembly. There was no evidence of rotational scarring on the gyro, rotor, or gyro housing.

Examination of the directional gyro revealed the caging knob sustained impact damage and the factory seal was not installed. Disassembly revealed the return spring keeper washer was sprung. There was no evidence of rotational scarring on the gyro, rotor, or gyro housing.

## MEDICAL AND PATHOLOGICAL INFORMATION

Post-mortem examination of the pilot was conducted by Dr. Robert D. Davis, Associate Medical Examiner, District Seven, Daytona Beach, Florida, on July 16, 1996. The cause of death was multiple blunt force injuries. Post-mortem toxicology studies of specimens from the pilot were performed by the Forensic Toxicology Research Section, Federal Aviation Administration, Oklahoma City, Oklahoma. These studies were negative for alcohol. Promethazine (0.034 ug/ml, ug/g) was present in the blood and urine. Acetaminophen (17.400 ug/ml, ug/g) was detected in the urine.

## TEST AND RESEARCH

Review of prescription information provided to the pilot when his prescription was filled on July 14, 1996, revealed that promethazine is used to relieve or prevent motion sickness, nausea, vomiting, dizziness, and to help some people sleep. Possible side effects include: skin rash, persistent sore throat, fever, blurred vision, yellow coloration of the skin or eyes,

uncontrolled trembling of the extremities, muscle spasms of the neck or back, or any other unusual, bothersome effects.

Dr. Chuck DeJohn, FAA Medical Research Officer, Aircraft Accident Research Team, Oklahoma City, Oklahoma, provided a consultation concerning the medical/human factors findings concerning the accident. Dr. DeJohn concluded that the pilot was in a poor clinical condition during the time leading up to the accident. The pilot had been suffering from gastroenteritis for 3 days before the accident resulting in dehydration. In addition, he appears not to have been sleeping well during that time and he had not eaten any solid foods for 2 days before the accident. The combination of the gastroenteritis with subsequent dehydration, disrupted sleep pattern, liquid diet, and the possible sedative (and other neurological) effects of phenergan could have produced a state of fatigue accompanied by drowsiness which could have a negative impact on the pilot's ability to safely fly an aircraft. For additional information see consultation letter dated January 14, 1997.

#### ADDITIONAL INFORMATION

A review of the Orlando International Air Traffic Control Tower (ATCT), continuous data recording radar, did not reveal any 0200 or 1200 transponder codes in the vicinity of the crash site for N65514. The Quality Assurance Specialist for Orlando ATCT stated, the base of radar coverage in the vicinity of the crash site is about 3,000 feet.

The airplane wreckage was released to Mr. Al E. Sharp, Aviation Consultant Services, Wimaumi, Florida, on July 17, 1996. Airplane instruments retained for further testing were released to Mr. Al E. Sharp, on July 31, 1996. Prescription drugs issued to the pilot (promethazine), and obtained through Volusia County Sheriff's Office were released to Dr. Chuck DeJohn, Research Physician, FAA CAMI Toxicology Laboratory, Oklahoma City, Oklahoma, on July 26, 1996.

## Pilot Information

<b>Certificate:</b>	Commercial	<b>Age:</b>	22,U
<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>	None	<b>Toxicology Performed:</b>	Yes
<b>Medical Certification:</b>	Class 1 Valid Medical-w/ waivers/lim	<b>Last FAA Medical Exam:</b>	February 29, 1996
<b>Occupational Pilot:</b>	No	<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>	305 hours (Total, all aircraft), 162 hours (Total, this make and model), 179 hours (Pilot In Command, all aircraft), 21 hours (Last 90 days, all aircraft), 6 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	Cessna	<b>Registration:</b>	N65514
<b>Model/Series:</b>	152 152	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	
<b>Airworthiness Certificate:</b>	Utility	<b>Serial Number:</b>	15281597
<b>Landing Gear Type:</b>	Tricycle	<b>Seats:</b>	2
<b>Date/Type of Last Inspection:</b>	June 25, 1996 100 hour	<b>Certified Max Gross Wt.:</b>	1670 lbs
<b>Time Since Last Inspection:</b>	24 Hrs	<b>Engines:</b>	1 Reciprocating
<b>Airframe Total Time:</b>	5932 Hrs	<b>Engine Manufacturer:</b>	Lycoming
<b>ELT:</b>	Installed, activated, aided in locating accident	<b>Engine Model/Series:</b>	O-235-L2C
<b>Registered Owner:</b>	AIR LEASE INC.	<b>Rated Power:</b>	110 Horsepower
<b>Operator:</b>	PHIL AIR FLIGHT CENTER	<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>	DAB ,35 ft msl	<b>Distance from Accident Site:</b>	10 Nautical Miles
<b>Observation Time:</b>	10:53 Local	<b>Direction from Accident Site:</b>	180°
<b>Lowest Cloud Condition:</b>	Clear	<b>Visibility</b>	10 miles
<b>Lowest Ceiling:</b>	None	<b>Visibility (RVR):</b>	
<b>Wind Speed/Gusts:</b>	8 knots / None	<b>Turbulence Type Forecast/Actual:</b>	/
<b>Wind Direction:</b>	90°	<b>Turbulence Severity Forecast/Actual:</b>	/
<b>Altimeter Setting:</b>	30 inches Hg	<b>Temperature/Dew Point:</b>	31°C / 23°C
<b>Precipitation and Obscuration:</b>	No Obscuration; No Precipitation		
<b>Departure Point:</b>	DAYTONA BEACH (DAB )	<b>Type of Flight Plan Filed:</b>	None
<b>Destination:</b>		<b>Type of Clearance:</b>	None
<b>Departure Time:</b>	10:53 Local	<b>Type of Airspace:</b>	Class G

## 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>	1 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>	1 Fatal	<b>Latitude, Longitude:</b>	28.96949,-80.870971(est)



## Administrative Information

Investigator In Charge (IIC):	Smith, Carol
Additional Participating Persons:	JESSE J BARRINGTON; ORLANDO , FL DAVID S RYAN; WICHITA , KS MARK W PLATT; VAN NUYS , CA
Original Publish Date:	February 5, 1998
Last Revision Date:	
Investigation Class:	<a href="#">Class</a>
Note:	
Investigation Docket:	<a href="https://data.nts.gov/Docket?ProjectID=37912">https://data.nts.gov/Docket?ProjectID=37912</a>

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](#).