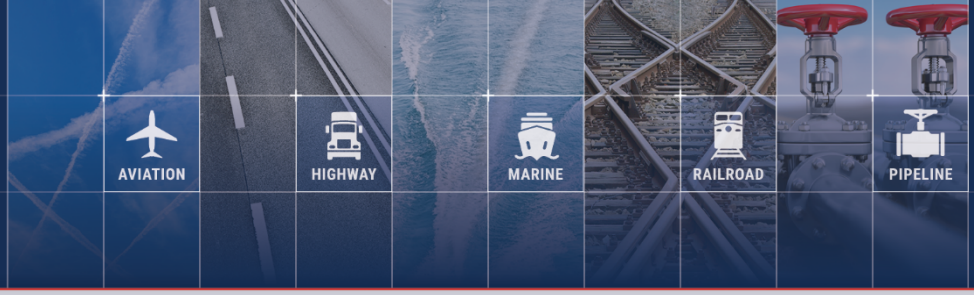

Aviation Investigation Final Report

Location:	OLIVE BRANCH, Mississippi	**Accident Number:**	MIA99FA034
Date & Time:	November 14, 1998, 20:54 Local	**Registration:**	N83396
Aircraft:	Piper PA-32R-301	**Aircraft Damage:**	Destroyed
Defining Event:		**Injuries:**	2 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

While executing a localizer/dme approach, the pilot executed a missed approach before the missed approach point and advised the controller, 'we was look like we just about had it there ah I think I'd like to try it one more time to see if we can make it.' The flight was cleared for the second localizer/dme approach and the airplane remained at 2,400 feet msl, for 1.3 miles past the FAF, then descended to only 1,400 feet at the missed approach point. The airplane continued to descend from that point to where the airplane was lost from radar .8 nautical mile past the departure end of the runway. The airplane collided with trees, the ground, and came to rest with both wings separated. Post accident examination of the engine, and flight controls revealed no evidence of preimpact failure or malfunction. A non-TSO'd altimeter was found in the airplane which when tested, revealed no discrepancies. Weather observation taken 3 minutes before the accident at the Memphis International Airport, located 10.9 nautical miles from the accident airport, indicates an overcast ceiling at 300 feet with visibility of 4 statute miles mist.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's failure to follow IFR procedures when he descended below the published minimum descent altitude.

Findings

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

Findings
1. (C) IFR PROCEDURE - NOT FOLLOWED - PILOT IN COMMAND
2. (C) MINIMUM DESCENT ALTITUDE - DISREGARDED - PILOT IN COMMAND
3. OBJECT - TREE(S)

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

Findings
4. TERRAIN CONDITION - GROUND

Factual Information

HISTORY OF FLIGHT

On November 14, 1998, about 2054, central standard time, a Piper PA-32R-301, N83396, registered to a private individual, collided with trees about 1.5 miles south of the Olive Branch Airport, Olive Branch, Mississippi. Instrument meteorological conditions prevailed at the time and an instrument flight rules (IFR) flight plan was filed for the 14 CFR Part 91 personal flight. The airplane was destroyed and the private-rated pilot and one passenger were fatally injured. The flight originated about 1926, from Pryor Field Regional Airport, Decatur, Alabama.

Review of a chronological summary of flight revealed that at 1925, while on the ground at Pryor Field Regional Airport, the pilot contacted Huntsville Approach requesting IFR clearance to Olive Branch Airport. The IFR clearance was issued at 1926, and at 1929, the pilot contacted Huntsville Approach and advised that the flight was airborne. The aircraft was radar identified and the pilot was advised by the controller to climb to 6,000 feet and to proceed on course. The flight continued and at 1936, the pilot was advised to contact Memphis Air Route Traffic Control Center. Air traffic control communications were then transferred to Memphis Approach Control. Review of a transcript of communications with that facility revealed that at 2016.32, the pilot radioed the facility and advised that the flight was at 6,000 feet. The controller acknowledged the contact and advised the pilot that there was no weather available for the destination airport. The controller also advised the pilot that the weather conditions at the Memphis International Airport included ifr conditions "...visibility four with mist ceiling 300 overcast wind calm altimeter's two niner niner six...."

The controller asked the pilot his intentions and the pilot responded, "let's use the ah localizer one eight." The controller advised the pilot that the flight would be vectored to the Localizer/DME approach to runway 18 at the Olive Branch Airport and asked the pilot his intentions if the pilot executed a missed approach. The pilot advised that he would "...try ah ah runway two seven at memphis." The controller radioed to the pilot that "alright in the event of a missed approach you can probably expect one of the parallels at memphis due to the ah low ceilings i'll keep you advised." The pilot acknowledged this and the controller advised the pilot to descend and maintain 4,000 feet. The pilot acknowledged the descent clearance and review of radar data from Memphis Approach Control revealed that at that time, the recorded altitude was 6,000 feet. The controller advised the pilot to turn to a heading of 310 degrees for a vector to the Localizer/DME approach to runway 18. The pilot acknowledged the clearance then the controller cleared the flight to descend and maintain 3,000 feet. The radar data from Memphis Approach Control indicated that the airplane at that time was at 4,000 feet. The pilot acknowledged the descent clearance and the controller vectored the flight then at 2035.02, the flight was cleared to descend and maintain 2,500 feet. The pilot acknowledged the clearance and at 2036.29, the controller advised the pilot to turn left heading 200 degrees to join the

runway 18 Localizer approach to the Olive Branch Airport.

At 2036.35, the pilot radioed the controller and stated "two zero zero and join the localizer three niner six." At 2037.14, the controller advised the pilot "piper three niner six you're four miles from mandd cleared for the localizer dme approach runway 18 at olive branch in the event of missed approach fly heading one eight zero climb and maintain two thousand and return to this frequency." The pilot acknowledged the transmission from the controller and 2 seconds after the pilot acknowledged the clearance, the controller advised the pilot to change to advisory frequency and to cancel IFR with him if the airport in sight or as soon as practical on frequency one two one point three. The pilot acknowledged this then there were no communications with the airplane for 4 minutes 6 seconds. Radar data from Memphis Approach Control revealed that between 2037.14 and 2040.31, the flight descended from 2,500 to 700 feet mean sea level (msl). Review of the instrument approach procedure for a straight in Localizer approach to runway 18 revealed that the minimum descent altitude for the accident airplane category is 800 feet msl. The radar data indicates that between 2040.31 and 2041.41, the altitude increased from 700 to 1,300 feet msl. At 2041.43, the pilot radioed the controller and stated "memphis eight three three niner six back with you ah i'd like to ah go back around and try that one more time before we come over there." The controller acknowledged the request and advised the pilot to climb and maintain two thousand five hundred and to fly heading zero nine zero degrees. The pilot acknowledged only the heading to fly. The controller radioed the pilot and stated "piper three niner six what were the flight conditions in the ah olive branch area." The pilot responded at 2042.43, "we was look like we just about had it there ah i think i'd like to try it one more time see if we can make it."

The controller acknowledged this and vectored the flight to a "base" leg. At 2048.48, the controller advised the pilot "piper three niner six turn left heading two zero zero join the runway one eight localizer at olive branch and advise when you're established." The pilot acknowledged this and at 2049.47, the controller stated "piper three niner six you're two miles from mandd cleared for the localizer dme approach runway 18 at olive branch change to advisory frequency is approved in the event of missed approach fly heading one eight zero just continue south bound climb and maintain two thousand and return to this frequency." The pilot acknowledged the approach clearance and there were no further recorded radio communications with the accident pilot. Radar data from Memphis Approach Control revealed that between 2049.49 to 2053.26, the flight descended from 2,400 to 700 feet msl. The last radar target indicated that the airplane was at 700 feel msl. There was no mention by the controller during any time that the flight was in contact with Memphis Approach Control that the altitude displayed on the controllers scope was different from the requested altitude to be flown.

PERSONNEL INFORMATION

Review of the pilot's second pilot logbook which began with the first entry dated July 14, 1994, through the last entry dated October 23, 1998, revealed that on the inside page, handwriting indicates a Biennial Flight Review (BFR) was accomplished in September 1994.

The logbook indicates that on March 30, 1996, two flights lasting a documented 5.4 hours in the accident make and model airplane were documented for the wings program. The logbook also indicates that on October 25, 1997, an entry indicates that the pilot completed the ground portion only of the flight review required by FAR 61.56. An entry dated September 9, 1998, contained a signature with the column of dual instruction marked. The entry does not specifically indicate that a BFR flight review was accomplished. Between March 14, 1998, and the last entry dated October 23, 1998, the pilot recorded 35 hours of actual instrument flight time which included a total of 27 instrument approaches.

AIRCRAFT INFORMATION

Federal Aviation Administration records indicate that the airplane registration paperwork was signed by the pilot on June 1, 1994.

The permanent aircraft maintenance records were not located; they were requested several times from the attorney who represents the estate of the pilot. According to a work order, in February 1994, the altimeter was found to be "defective" during a test of it and the pitot static system. A non-Technical Standard Order (TSO) altimeter, serial number M5998, was installed by Des Moines Flying Service, Inc., a FAA certified repair station, to replace the "defective" altimeter. Another work order that was located indicated that on March 16, 1998, the non TSO'd altimeter was certified to 20,000 feet, the static system, and blind encoder were certified in accordance with 14 CFR Part 91.411, by Olive Branch Avionics, a FAA certified repair station located in Olive Branch, Mississippi. The transponder was certified that same day by the same facility in accordance with 14 CFR Part 91.413. According to the owner of the repair station that tested the altimeter in March 1998, the altimeter was removed from the airplane.

The airplane was inspected last in accordance with an annual inspection in September 1998. According to the FAA certificated airframe and powerplant mechanic with inspection authorization who performed the inspection, at that time the airframe total time and tachometer indicated 3,025.7 hours, and the engine time since overhaul was 824.5 hours. He used the Piper inspection form and reported changing the induction air filter, changed the engine oil and oil filter, cleaned and regapped and tested all spark plugs, replaced the Emergency Locator Transmitter battery, and stop drilled a cracked lower tail cone. He also replaced the static wick on the left stabilator, repaired a bonding strap on the right flap, and replaced the main battery.

METEOROLOGICAL INFORMATION

On the day of the accident about 1100 central standard time, a person using the registration number of the accident airplane phoned the Jackson Automated Flight Service Station (AFSS) and requested an outlook weather briefing for the afternoon and the evening for a planned IFR flight from Olive Branch, to Decatur or the Huntsville, Alabama, area. The person advised the briefing specialist that the flight would depart about 1400 hours and would return between 1800 and 2000 hours. The briefing specialist advised the caller that the freezing level started

at 12,000 feet, and "...the only thing i've got for you then is an airmet sierra for ifr conditions and thats probably gonna be ah remaining you know most the day appar." The caller questioned the ceiling and the weather conditions at Memphis, to which the briefing specialist responded that an overcast ceiling existed at 300 [feet], and the surface visibility was 4 miles. The specialist also provided the weather conditions at Muscle Shoals which indicated a visibility of 1.25 miles and a ceiling at 200 [feet] broken. The weather conditions for Decatur was provided which indicated that the surface visibility was 1.5 statute miles with light rain and mist, and an overcast ceiling existed at 500 feet. The Huntsville weather was also provided which indicated that the surface visibility was 2 statute miles with light rain and mist, and an overcast ceiling existed at 300 feet. Additionally, the forecast for the Memphis area that was valid from 1800 UTC through 0300 UTC, which was about 6 minutes after the accident, was provided. That forecast called for unrestricted visibilities and ceilings of 1,500 overcast, occasionally, 600 feet broken. The specialist also provided the forecast for Huntsville and stated that review of the radar indicated moderate precipitation was detected from Muscle Shoals to Huntsville, moving east-northeast. The specialist advised the caller "but uh but just low pretty much low ifr all day and and at least light to moderate rain." That was acknowledged by the caller and the briefing was concluded at 1104.04.

At 1222.41, a person using the registration number of the accident airplane called again to the Jackson AFSS, and stated that he had received a briefing "a little bit ago" but didn't recall the tops of the clouds and requested that information for a IFR flight to Decatur, Alabama. The briefing specialist responded "...do you need the winds aloft do you just need an update on the on the weather." The caller responded "just the weather" and the briefing specialist questioned when was the last briefing; the caller responded "oh about an hour ago." The specialist advised the person of the weather conditions at Memphis which indicated a surface visibility of 2 miles in mist, and an overcast ceiling at 500 feet. The specialist advised the caller that a special weather observation taken 22 minutes earlier at Decatur indicated that the surface visibility was 4 miles with light rain showers and mist, ceilings 400, and 800 broken and 1,500 feet overcast. The ceiling varied between 200 and 600 feet. There were no reports of any pilot reports and the caller who later identified himself as Ernie Hamilton, filed an IFR flight plan for the flight from Olive Branch, Mississippi, to Decatur, Alabama.

At 1912.44, a person using the registration number of the accident airplane called the Anniston AFSS, and advised the specialist that the flight was "...ifr off of decatur for uh olive branch, mississippi, that's olv oscar lima." The specialist questioned when the flight was leaving and the caller responded "oh as soon as uh you can get me a uh flight plan on file and about one hour flying time." An IFR flight plan was filed with the accident pilot listed as the pilot in the flight plan. The specialist stated "(unintelligible) blue and red all right gotcha flight plan anything else." The caller responded with a mostly unintelligible comment. The specialist then advised the caller "it's an airmet for ifr all along there did you want an alternate," to which the caller responded "uh just (unintelligible) i'm ifr" to which the specialist responded 4 seconds later "yeah but uh normally when it's forecast ifr you file an alternate but i (unintelligible) if you don't want one that's fine." The caller responded "...i need an update just on the weather." The specialist questioned when was the last briefing and the caller

responded about 2 hours earlier. The specialist advised the caller of the weather conditions at the departure airport, the weather conditions at the Memphis Airport which indicated that the surface visibility was 6 miles in mist, scattered clouds existed at 600 feet and overcast clouds existed at 1,500 feet. The caller was also provided the weather conditions for the airport in Tupelo, Mississippi. The called advised the specialist that Memphis would be the alternate and the specialist advised the caller that the forecast for Memphis occasionally included a visibility of 2 miles and an overcast ceiling of 600 feet, through 2200 that evening. The call was concluded at 1915.05.

A METAR weather observation taken at 2051 (approximately 3 minutes before the accident), from the Memphis International Airport (KMEM), indicates that the wind was from 250 degrees at 4 knots, the visibility was 4 statute miles, mist, overcast ceiling at 300 feet, temperature and dewpoint of 14 degrees Celcius (57.2 degrees Fahrenheit), altimeter 29.96 inHg. The KMEM airport is located about 297 degrees and 10.9 nautical miles from the accident site.

According to the Olive Branch Airport Manager, he was notified on the evening of the accident about 2118, that the accident airplane was lost from radar. He drove to the airport and during the trip, noted heavy fog with visibility of 1/8 mile or less.

Transcriptions of the weather briefings are attachments to this report.

COMMUNICATIONS

The pilot was in contact with Memphis Approach Control and a transcription of communications is an attachment to this report.

AERODROME INFORMATION

Runway 18 is 6,000 feet long and 100 feet wide. The surface is asphalt and the runway elevation is 401 feet mean sea level. The runway is equipped with medium intensity runway lights (MIRL), runway end identifier lights (REIL) which are pilot activated on the common traffic advisory frequency (CTAF), and a visual approach slope indicator (VASI) which consists of four lights on the left side of the runway.

Runway 18 is served in part by a localizer approach which operates on the frequency of 109.3 MHz, and has a minimum descent altitude of 800 feet msl, for a straight in approach to runway 18 for category A, B, and C, aircraft. The MANDD intersection which is the final approach fix (FAF) is identified by radar, the 065 degree radial from the Memphis VORTAC, and is 7.1 dme from the I-OLV Localizer. The distance from the FAF to the Missed Approach Point (MAP) is 6 nautical miles on a heading of 179 degrees.

On November 13, 1998, the runway 18 localizer approach of the instrument landing system was flight checked as part of a periodic test by FAA personnel from the Flight Inspection Field Office located in Oklahoma City, Oklahoma. The flight check consisted of the Localizer,

lighting system, and DME with the facility status for the front course (F/C) listed as unrestricted.

According to the Olive Branch Airport Manager, after arriving at the airport following notification 24 minutes after the accident, he noted that the monitors for the NDB and Localizer approaches were all functioning normally and no alarms were heard.

WRECKAGE AND IMPACT INFORMATION

The crash site was located on private property which consisted of a small farm. The airplane wreckage was located as determined by GPS readings to be 1.54 nautical miles and 179 degrees magnetic from the center of the Olive Branch Airport. Examination of the accident site revealed that while on a magnetic heading of approximately 180 degrees, the first contact with a tree was noted about 75-80 feet above ground level. Right wing tip pieces were found adjacent to that location. Another tree contact was noted 129 feet from the initial tree contact. Spotting of leaves was noted forward of that point. Another tree contact was noticed 273 feet from the initial tree impact. The left wing which separated into 3 segments and the outboard section of the right wing were noted adjacent to that location with the right wing section located to the right of the flight path. A ground scar measuring 48 feet in length was noted approximately 528 feet from the initial tree impact. Another tree strike approximately 5.5 feet agl was noted 639 feet from the initial tree impact point. Approximately 13 feet 9 inches length of the right wing was noted adjacent to that location. The main wreckage which consisted of the fuselage was found inverted on a magnetic heading of 220 degrees with both wings, and the tail surfaces separated. The engine was partially separated from the airframe. The three segments of the left wing were 9', 5'2", and3'10 inches in length, respectively. Chordwise leading edge crushing was noted along its length; the flight control cables exhibited evidence of overstress separation. The left main landing gear was partially out of the wheel well location with evidence of rubber transfer to the paint on the inner inboard portion of the wheel well. Examination of the right wing which consisted of a segment 13 feet 9 inches in length and a smaller size segment revealed that the landing gear was down and locked. The flap and aileron flight control surfaces were attached. Evidence of tree contact of the right wing was detected 2 feet 11 inches outboard from the wing root and a second tree contact point was noted 18 inches outboard of the inboard tree contact location. Examination of the right wing aileron cables revealed evidence of overstress separation. The flap handle and torque tube positions corresponded to the flaps retracted position. Examination of the altimeter in the instrument panel revealed that the barometric setting was positioned at 29.92 inHg; the altimeter was indicating 160 feet below msl. Located in the cockpit clipped to the left side control column were U.S. Terminal Procedures instrument approach procedure charts for Demopolis, and Decatur, Alabama. An IFR enroute low altitude chart appropriate for the route of flight was found in the wreckage. The engine was removed for further examination. The Nos. 1 and 2 VOR receivers and VOR indicators, the DME indicator, and DME transmitter and receiver, altimeter, directional gyro, and attitude indicator were retained for further examination (See tests and research section).

Examination of the engine revealed crankshaft, camshaft, and valve train continuity. The magneto which was found separated from the engine was retained for further examination which revealed that the right condenser was not located. Bench testing of the magneto with the left condenser installed and a slave condenser installed in the right position was accomplished; the magneto was found to operate normally. The left condenser was then installed in the right position and a slave condenser was installed in the left position; the magneto again operated normally. The servo fuel injector was partially disassembled which revealed that the fuel diaphragm stem was not broken. The induction system was found to be free of obstructions. The auxiliary fuel pump was electrically tested and found to operate normally. Fuel was found at the engine driven fuel pump, the fuel lines in the engine compartment, at the servo fuel injector, and at the fuel manifold. Examination of the spark plugs revealed a color consistent with normal engine operation. The vacuum pump drive shaft was not failed and disassembly of the vacuum pump revealed that the rotor and vanes were intact.

Examination of the propeller revealed that one of the propeller blades exhibited slight torsional twisting with a gouge on the leading edge of the blade and a section missing from the blade near the blade tip. The second blade of the three bladed propeller was bent aft approximately 130 degrees with slight torsional twisting and spanwise scratches at the blade tip and at the midspan of the blade. The third blade was bent aft approximately 230 degrees with about 6 inches of the blade tip bent forward.

MEDICAL AND PATHOLOGICAL INFORMATION

Postmortem examinations of the pilot and passenger were performed by Steven T. Hayne, M.D., F.C.A.P., Designated Pathologist Mississippi State Medical Examiner's Office. The cause of death for both was listed as airplane crash. Toxicological testing of specimens of the pilot was performed by the FAA Toxicology and Accident Research Laboratory (CAMI). The results of testing by CAMI was negative for carbon monoxide, cyanide, volatiles, and tested drugs. No toxicological analysis was done on specimens of the passenger.

TESTS AND RESEARCH

Testing of the DME indicator and DME transmitter/receiver, the Nos. 1 and 2 receivers and indicators, was performed by personnel from S-TEC in the presence of an FAA inspector. The testing revealed that the frequency of the No. 1 NAV receiver was determined to be 109.3 MHz, which is the frequency for the Localizer at the Olive Branch Airport. The frequency of the No. 2 NAV receiver was determined to be 117.5 MHz, which is the frequency of the MEM VORTAC. Testing of the Nos. 1 and 2 VOR indicators revealed impact damage to the faceplate, display and knob areas. According to the manufacturer, both units appeared to be functioning normally with the exception of physical damage. Testing of the DME indicator revealed that the unit was positioned to the "NAV 1" position and "GS", and at distances less than 10 nautical miles, the unit was found to be .1 nautical mile out of specification. A copy of the inspection report is an attachment to this report.

Testing of the attitude indicator and directional gyro was performed using shop air. The rotors in both instruments were noted to spin freely with no discrepancies noted. No further testing of the two instruments was performed.

Visual external examination of the altimeter revealed anti-tamper compound of one of the bezel screws. No anti-tamper compound was found on the lock screw. The handle shaft was noted to be broken. Examination of the data tag on the back of the instrument revealed no markings which indicated that it was manufactured to a TSO standard. Bench testing of the altimeter was performed with the barometric setting indicating 29.90 inHg. The barometric setting of the master altimeter used for the test was set to the same setting as the accident altimeter. The accident altimeter was indicating 660 feet below msl and the master altimeter was indicating 100 feet below msl, before the testing commenced. The accident altimeter was operated up to 20,000 feet with only slight hesitation noted of the 100 foot pointer during the ascent; the test bench vibrator was not operating. The altimeter was tested from 6,000 feet to 0 feet mean sea level with the test bench vibrator operating using 500, 1000, and 2,000 feet per minute rates of descent. There was no evidence of hesitation or sticking of either the 100-foot pointer or of the 1,000-foot pointer during the test. The altimeter was also tested from 3,000 feet to 0 feet mean sea level using 750 feet per minute rate of descent with the test bench vibrating. There was no evidence of hesitation or sticking of either of the 100 foot pointer or of the 1,000 foot pointer during the test. The hysteresis check at 10,000 feet was accomplished and found to be out of limits by 15 feet, though the same check at 8,000 feet was found to be within limits. The zero drift check and the after effect checks were found to be within limits.

ADDITIONAL INFORMATION

According to James F. Garufo, Jr., General Manager of Instruments and Flight Research, Inc. (IFR), the altimeter that was installed in the airplane at the time of the accident by serial number, was manufactured by Taihang Factory in China. It was sold to IFR, by CATIC Corporation of Beijing, China. The altimeter was then sold by IFR, to Signature Flight Support, Des Moines, Iowa, in September 1993. Des Moines Flying Service, Inc., purchased Signature Flight Support located in Des Moines, Iowa, and as a result obtained the parts spares and supplies.

Review of Advisory Circular (AC) 21-18, revealed that China is not listed as a country that has Bi-Lateral Airworthiness Agreements (BAA) with the United States. AC 21-18 states that the BAA's "...are technical agreements (which may be broad or limited in scope) intended only to facilitate the reciprocal acceptance of test results, certificates, or marks of conformity issued by the airworthiness authority of the exporting country."

According to Mr. E. C. Smith, a senior safety counselor for the FAA Flight Standards District Office (FSDO), located in Birmingham, Alabama, on the day of the accident he was located at the Pryor Field Regional Airport, Decatur, Alabama, and at approximately 1420 hours local time, the accident airplane flew over hangars at the airport about 50-75 feet, with the landing gear

retracted. The airplane then flew a circling downwind and landed, with no radio calls transmitted by the pilot of the airplane. After landing he asked the pilot if he had canceled his flight plan, to which the pilot stated that he had. Mr. Smith then counseled the pilot which lasted approximately 30 minutes during which the pilot responded that the controllers had kept him too high. The pilot terminated the counseling session and walked away, returning to the airport about 1900 hours in a rental car. The flight departed about 1920 hours. Mr. Smith further reported that no fueling or services were provided by Decatur Athens Aero Service. The statement provided by Mr. Smith was signed by four other individuals who were witnesses to the event, three of whom are pilots, attesting to the events described by Mr. Smith. The statement is an attachment to this report.

Plan view and profile view plots of the radar target data information obtained from Memphis Approach Control was accomplished by the NTSB Vehicle Performance Section, located in Washington, D.C. The result of the profile view plot indicates that during the first approach to the airport, the pilot descended to 700 feet msl at a point 1 1/2 miles north of the airport and began a climb before reaching the missed approach point (MAP). The profile view plot indicates that during the second approach, the airplane remained at 2,400 feet msl for about 1.3 nautical miles past the MANDD intersection (FAF) then descended to 1,400 feet msl at the plotted MAP. The profile view plot indicates that the airplane descended from that point to 700 feet msl, which is the last radar target located about .8 nautical mile from the departure end of the runway. Review of the plan view plot revealed that on the first approach, the airplane was flown west of course between the FAF and the MAP, and during the second approach, the airplane was noted to fly nearly over the runway, then near the departure end of the runway, began a slight turn to the right.

The airplane minus the retained components was released to Mr. Douglas Spillars, President of Douglas Aviation, on November 16, 1998. The retained components were released to Mr. Mark C. Thompson of U.S. Aviation Underwriters, Inc., on August 27, 1999.

Pilot Information

Certificate:	Private	**Age:**	58,Male
Airplane Rating(s):	Single-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	
Instrument Rating(s):	Airplane	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	Yes
Medical Certification:	Class 3 Valid Medical--w/ waivers/lim	**Last FAA Medical Exam:**	April 2, 1997
Occupational Pilot:	UNK	**Last Flight Review or Equivalent:**	
Flight Time:	1330 hours (Total, all aircraft), 820 hours (Total, this make and model), 1293 hours (Pilot In Command, all aircraft), 40 hours (Last 90 days, all aircraft), 11 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Piper	**Registration:**	N83396
Model/Series:	PA-32R-301 PA-32R-301	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	32R-8113040
Landing Gear Type:	Retractable - Tricycle	**Seats:**	6
Date/Type of Last Inspection:	September 5, 1998 Annual	**Certified Max Gross Wt.:**	3600 lbs
Time Since Last Inspection:	30 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	3056 Hrs	**Engine Manufacturer:**	Lycoming
ELT:	Installed, activated, aided in locating accident	**Engine Model/Series:**	IO-540-K1G5D
Registered Owner:	ERNIE O. HAMILTON	**Rated Power:**	300 Lbs thrust
Operator:		**Operating Certificate(s) Held:**	None
Operator Does Business As:		**Operator Designator Code:**	

Meteorological Information and Flight Plan

Conditions at Accident Site:	Instrument (IMC)	**Condition of Light:**	Night/dark
Observation Facility, Elevation:	MEM ,332 ft msl	**Distance from Accident Site:**	11 Nautical Miles
Observation Time:	20:51 Local	**Direction from Accident Site:**	297°
Lowest Cloud Condition:	Unknown	**Visibility**	4 miles
Lowest Ceiling:	Overcast / 300 ft AGL	**Visibility (RVR):**	
Wind Speed/Gusts:	4 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	250°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	29 inches Hg	**Temperature/Dew Point:**	14°C / 14°C
Precipitation and Obscuration:	N/A - None - Fog		
Departure Point:	DECATUR , AL (DCU)	**Type of Flight Plan Filed:**	IFR
Destination:	(OLV)	**Type of Clearance:**	IFR
Departure Time:	19:26 Local	**Type of Airspace:**	Class E

Airport Information

Airport:	OLIVE BRANCH OLV	**Runway Surface Type:**	
Airport Elevation:	401 ft msl	**Runway Surface Condition:**	
Runway Used:	18	**IFR Approach:**	Localizer only
Runway Length/Width:		**VFR Approach/Landing:**	

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:**	34.949279,-89.819816(est)

Administrative Information

Investigator In Charge (IIC):	Monville, Timothy
Additional Participating Persons:	DAN M MALONE; JACKSON , MS JIM IRWIN; MINERAL WELLS , TX MICHAEL MCCLURE; ARLINGTON , TX GERALD R JAMES; DALLAS , TX
Original Publish Date:	March 31, 2000
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=45327