Aviation Investigation Final Report

Location:	WALLISVILLE, Texas	**Accident Number:**	FTW95FA101
Date & Time:	January 25, 1995, 21:40 Local	**Registration:**	N7250U
Aircraft:	BEECH A36	**Aircraft Damage:**	Substantial
Defining Event:		**Injuries:**	1 Fatal, 1 Serious
Flight Conducted Under:	Part 91: General aviation		

Analysis

WHILE EN ROUTE FROM DESTIN, FL, TO HOUSTON, TX, THE PASSENGER NOTED THAT THE PILOT PERIODICALLY SWITCHED FUEL TANKS. ALSO, HE NOTED BEEPING SOUNDS THAT STOPPED AFTER THE AUTOPILOT WAS TURNED OFF AND THE AUTOMATIC (PITCH) TRIM CIRCUIT BREAKER WAS PULLED. DURING DARKNESS, AS THE FLIGHT APPROACHED ANAHUAC, TX, THE ENGINE LOST POWER. THE PILOT RESTARTED THE ENGINE, BUT SECONDS LATER, IT LOST POWER AGAIN AND WOULD NOT RESTART. DURING AN EMERGENCY LANDING, THE AIRPLANE COLLIDED WITH TREES AND CAME TO REST PARTIALLY SUBMERGED IN WATER. THE FUEL TANK SELECTOR WAS FOUND POSITIONED BETWEEN THE LEFT AND RIGHT TANK. ENGINE TEST RUNS WERE SUCCESSFUL. A TOXICOLOGY TEST OF THE PILOT'S BLOOD SHOWED 0.583 MCG/ML FLUOXETINE (PROZAC) AND 0.254 MCG/ML NORFLUOXETINE (METABOLITE OF FLUOXETINE). A TEST OF HIS URINE SHOWED 0.344 MCG/ML FLUOXETINE AND 0.195 MCG/ML NORFLUOXETINE. THE PRESCRIPTION DRUG, PROZAC, IS AN ANTIDEPRESSANT AND IS NOT APPROVED FOR USE WHILE FLYING.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: FUEL STARVATION DUE TO IMPROPER POSITIONING OF THE FUEL TANK SELECTOR, WHICH RESULTED IN LOSS OF ENGINE POWER. FACTORS RELATED TO THE ACCIDENT WERE: DARKNESS AND A LACK OF SUITABLE TERRAIN FOR THE FORCED LANDING.

Findings

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

Findings
1. (C) FLUID,FUEL - STARVATION
2. (C) FUEL TANK SELECTOR POSITION - IMPROPER - PILOT IN COMMAND
3. USE OF INAPPROPRIATE MEDICATION/DRUG - PILOT IN COMMAND

Occurrence #2: FORCED LANDING
Phase of Operation: DESCENT - EMERGENCY

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

Findings
4. (F) LIGHT CONDITION - NIGHT
5. (F) TERRAIN CONDITION - NONE SUITABLE
6. OBJECT - TREE(S)

Occurrence #4: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: EMERGENCY LANDING

Findings
7. TERRAIN CONDITION - WATER

Factual Information

HISTORY OF FLIGHT:

On January 25, 1995, at 2140 central standard time, a Beech A36, N725OU, was destroyed during a forced landing near Wallisville, Texas. The private pilot sustained fatal injuries and the passenger was seriously injured. Visual meteorological conditions prevailed for the business cross country flight.

During an interview and on the enclosed statement, the passenger reported the information in this paragraph. At 1810, when the pilot and passenger arrived at the Destin, Florida, airport, the pilot obtained fuel and performed a preflight inspection of the airplane. Prior to departure and during the flight, the aft door warning light and the cockpit door light were illuminated; however, the pilot indicated that the doors were secure. The pilot and passenger used oxygen (a procedure used by the pilot for night flights) from a portable bottle. Initial cruise flight was at 6,000 feet MSL and en route the airplane descended due to lowering ceilings.

During the interview, the passenger further reported that he recalled the following events; "the sequence of events and the location of occurrence was not clear." In the vicinity of Beaumont, Texas, one fuel tank gauge was reading higher than the other gauge, and the pilot said that he was switching back and forth between the two tanks. About 10 minutes before impact, the passenger noted the fuel gauges showing between 1/3 and 1/2 full. As the flight approached Beaumont, Texas, a repetitive "beep" was heard in the cockpit and the pilot replied that the autopilot was not working and he would fly the airplane manually.

The beeping stopped when the pilot turned off the autopilot; however, after the flight passed over Beaumont, a panel warning light illuminated and a buzzer (continuous beep) for the automatic trim (autopilot pitch trim) was heard. Circuit breakers were checked, and at the request of the pilot, the passenger pulled the automatic (pitch) trim circuit breaker. Subsequently the warning light went out and the buzzer silenced. The pilot radioed an air traffic controller about the electrical problem; however, the pilot did not declare an emergency.

As the flight approached Anahuac, Texas, a total loss of engine power occurred and the pilot restarted the engine. Within seconds, a total loss of engine power again occurred. The pilot declared an emergency and requested vectors to an airport. The passenger recalled seeing trees illuminated by the airplane lights.

The airplane was found with the cockpit and cabin areas submerged in Lake Miller. Rescue personnel reported that, during their initial arrival, flames from the fire surrounded the airplane. Local authorities reported the passenger exited the cockpit and was rescued by helicopter. Light drizzle was reported throughout the area during the rescue.

PERSONNEL INFORMATION:

A review of the pilot's logbook revealed a high performance endorsement dated October 7, 1991, for the A36. The last night flight was 0.6 hour logged on November 14, 1992. The pilot's only logged time since November 1992 was 6.8 hours of dual instruction (biennial flight review and instrument competency check), from October 24, 1994, through November 1, 1994.

The pilot's third class Federal Aviation Administration (FAA) medical certificate application dated January 6, 1994, showed a total flight time of 500 hours and 40 hours of flight time in the previous 6 months. Acquaintances of the pilot reported that the pilot had several hundred hours of flight time which had not been logged.

AIRCRAFT INFORMATION:

Maintenance records recovered from the submerged airplane were reviewed. On May 2, 1991, the alternator regulator was replaced and adjusted. Date of issuance of the registration certification to the current owner/operator was January 31, 1992. At a total airframe time of 639.0 hours, the factory remanufactured engine was installed on August 14, 1992. On November 9, 1993, the fuel pump coupling was replaced and the pump was sent to the factory for flow check and adjustment prior to reinstallment on the engine. On October 14, 1994, the fuel pump was removed due to a lack of fuel pressure at low RPM's and the pump was reinstalled after a satisfactory bench check.

COMMUNICATION:

A review of air traffic control data (enclosed) revealed the following summary information. All times are converted to central standard time unless otherwise indicated.

At 2115:42 Beaumont approach was advised of the descent to 4,500 feet MSL. At 2132:09 the pilot radioed Beaumont Approach Control and advised that he was "having a slight electrical problem" but did not want to declare an emergency. The flight was given a transponder code of 1074 and Houston Air Route Traffic Control (ARTCC) was advised of the information from N7250U. Houston ARTCC assigned a transponder code of 0232 at 2134, cleared the flight into Class B airspace, and assigned a heading of 250 degrees for vectors to the planned destination.

The pilot declared an emergency at 2137:25 and requested the nearest airport. At 2137:42 the pilot reported a loss of engine power and requested vectors to the nearest lighted airport. At 2139:05 an engine restart was reported followed by a negative at 2139:14. The controller continued vectors to an airport; however, at 2139:45 the pilot transmitted "we're going to try the freeway" and at 2139:52 the pilot responded "affirmative" to an inquiry from the controller about again loosing engine power. That was the last recorded radio transmission.

WRECKAGE AND IMPACT INFORMATION:

The impact site was approximately 1 mile north of Interstate 10 at a longitude of 94 degrees 44.05 minutes north and longitude 29 degrees 51.12 minutes west. The right outboard wing, left horizontal stabilizer, and left wing were separated from the airframe. Post impact fire damage was noted on the inboard right wing section and the cabin door. The airplane came to rest on a measured magnetic heading of 170 degrees with the fuselage and cabin area submerged. See the enclosed diagram for additional details.

Cockpit examination revealed the pitch trim circuit breaker tripped and the fuel selector positioned between the left and right tank. Divers reported that fuel contamination in the water hampered the recovery of the left wing.

MEDICAL AND PATHOLOGICAL INFORMATION:

The autopsy was performed by the Office of the Medical Examiner of Harris County Joseph A. Jachimczyk Forensic Center at Houston, Texas. According to Dr. Canfield, of the Federal Aviation Administration Civil Aeromedical Institute at Oklahoma City, Oklahoma, the "concentrations of 0.583 (ug/mL, ug/g) Fluoxetine (Prozac) detected in blood, 0.254 (ug/mL, ug/g) Norfluoxetine (metabolite of Prozac) detected in blood, 0.344 (ug/mL, ug/g) Fluoxetine detected in urine, and 0.195 (ug/mL, ug/g) Norfluoxetine detected in urine, may cause impairment." According to Dr. Salazar, FAA Southwest Regional Flight Surgeon, is not listed as an authorized medication by the FAA "because it may cause impairment."

TEST AND RESEARCH:

The engine driven fuel pump and engine were preserved for an engine run. No fuel was found in the fuel lines when the fuel pump was removed. The pump drive coupling was intact and the pump rotated by hand. Flight control continuity was confirmed. Fuel screens contained debris and the left fuel tank adjacent to the fuel return line and vent line contained an unidentified material; however, all vent lines were pressure checked with no blockage found. Propeller blades exhibited scrapes and bending.

The engine driven fuel pump was installed and all fuel screens replaced prior to the engine runs. With fuel being supplied through the left tank plumbing and left fuel selector position the first run (10 minutes) was conducted at 1,000 RPM's. A test fuel flow gauge and manifold pressure gauge were hooked into the system and the second run (31 minutes) was conducted at 2,200 RPM's. With an intermediate (between left and right) fuel selector position, the engine ran for 20 seconds prior to fuel starvation. During the third run (6 minutes), the fuel return line was restricted, and the engine ran rich at idle with no noticeable effect at higher power settings. An engine run was conducted for 22 minutes with the fuel supplied through the right tank plumbing.

Due to the aircraft being submerged in water, the avionics bus could not be functionally tested.

Inspection of the airplane wiring revealed physical evidence of impact arcing present at the air conditioner mounting bracket and damage to the electrical relays. Inspection of the autopilot wiring did not reveal any discrepancies that would have contributed to an electrical system fluctuation. Continuity was confirmed for the KFC-200 autopilot installation and then the autopilot servos were removed.

All components exhibited "internal corrosion due to water." On the KC-295 flight computer power supply board "some charring was noted in the area of the +15 volt regulators" and upon power application, both of these voltage regulators were found to be inoperative.

Operational procedures for an installed KFC-200 autopilot system were demonstrated using a Cessna model 182. During a portion of the demonstration, the D. C. voltage supply from the power cart was reduced to 15 to 16 volts and the aircraft battery was disconnected from the electrical system. This low voltage condition simulated testing the system command for trim when the trim would not respond; therefore, detecting a simulated fault and activating the trim fail warning, beeping trim fail aural alert, and trim annunciator warning light. Pulling the trim circuit breaker silenced the beeping.

ADDITIONAL DATA:

The airplane was released to the owner's representative.

Pilot Information

Certificate:	Private	**Age:**	34,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--no waivers/lim.	**Last FAA Medical Exam:**	January 6, 1994
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:	341 hours (Total, all aircraft), 152 hours (Total, this make and model), 286 hours (Pilot In Command, all aircraft), 7 hours (Last 90 days, all aircraft), 3 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	BEECH	**Registration:**	N7250U
Model/Series:	A36 A36	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	E2276
Landing Gear Type:	Retractable - Tricycle	**Seats:**	6
Date/Type of Last Inspection:	December 5, 1994 Annual	**Certified Max Gross Wt.:**	3600 lbs
Time Since Last Inspection:	22 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	910 Hrs	**Engine Manufacturer:**	CONTINENTAL
ELT:	Installed, activated, did not aid in locating accident	**Engine Model/Series:**	IO-550-B
Registered Owner:	SCOTT H. DEBERRY	**Rated Power:**	300 Horsepower
Operator:		**Operating Certificate(s) Held:**	None
Operator Does Business As:		**Operator Designator Code:**	

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Night/dark
Observation Facility, Elevation:	HOU ,47 ft msl	**Distance from Accident Site:**	35 Nautical Miles
Observation Time:	21:50 Local	**Direction from Accident Site:**	252°
Lowest Cloud Condition:	Unknown	**Visibility**	15 miles
Lowest Ceiling:	Overcast / 3500 ft AGL	**Visibility (RVR):**	
Wind Speed/Gusts:	9 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	110°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30 inches Hg	**Temperature/Dew Point:**	16°C / 13°C
Precipitation and Obscuration:	Light - None - Drizzle		
Departure Point:	DESTIN , FL (81J)	**Type of Flight Plan Filed:**	None
Destination:	HOUSTON , TX (IWS)	**Type of Clearance:**	VFR
Departure Time:	18:46 Local	**Type of Airspace:**	Class B

Airport Information

Airport:		**Runway Surface Type:**	
Airport Elevation:		**Runway Surface Condition:**	
Runway Used:	0	**IFR Approach:**	None
Runway Length/Width:		**VFR Approach/Landing:**	Forced landing

Wreckage and Impact Information

Crew Injuries:	1 Fatal	**Aircraft Damage:**	Substantial
Passenger Injuries:	1 Serious	**Aircraft Fire:**	On-ground
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 Fatal, 1 Serious	**Latitude, Longitude:**	29.860269,-94.690528(est)

Administrative Information

Investigator In Charge (IIC):	Smith, Joyce
Additional Participating Persons:	BRUCE L HASELTINE; HOUSTON , TX
Original Publish Date:	June 13, 1996
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=19206