



Aviation Investigation Final Report

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| Location: | Boca Raton, Florida | Accident Number: | MIA01LA182 |
| Date & Time: | July 12, 2001, 17:35 Local | Registration: | N3054J |
| Aircraft: | Piper PA-34-200T | Aircraft Damage: | Substantial |
| Defining Event: | | Injuries: | 12 Minor, 2 None |
| Flight Conducted Under: | Part 91: General aviation | | |

Analysis

Just after takeoff the pilot reported that the left engine lost power. He checked that the mixture, propellers, and throttles were all full forward, and that the fuel selector was "on." He said, "...I checked the fuel selectors by feel only." He recycled the left engine feather control and made the decision to land gear up. He retracted the landing gear, and attempted to feather the left engine again without success. At this point he could not maintain altitude or airspeed, estimated that his altitude was "between 150-200 feet," and the airspeed had decayed to 78 knots (83 was Vmc). He elected to land on an interstate highway, before the airplane started a Vmc roll. He landed in a southerly direction on the northbound lanes of the highway, first striking a light pole with the left wing, and then seven vehicles. After coming to a stop, the two occupants evacuated the airplane after the passenger said he was "in a puddle of fuel." The pilot stated that he ".....reached down and moved the fuel selectors back. They were full forward in the 'on' position. I missed the 'off' and mistakenly moved them to crossfeed as I exited the airplane." Examination of the fuel selectors at the crash site revealed that both engine fuel selectors were in the "crossfeed" position. The left engine was test run, and no discrepancies were found. Fuel was found in the left engine. The fuel was visually examined for contamination and water, none was observed. Examination of the right engine revealed, no discrepancies.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: A loss of engine power, and the pilot unable to feather the propeller for undetermined reasons, which resulted in a forced landing on a highway, subsequent impact with a pole and vehicles.

Findings

Occurrence #1: LOSS OF ENGINE POWER

Phase of Operation: CLIMB

Findings

1. REASON FOR OCCURRENCE UNDETERMINED

Occurrence #2: FORCED LANDING

Phase of Operation: EMERGENCY LANDING AFTER TAKEOFF

Findings

2. PROPELLER FEATHERING - NOT ATTAINED - PILOT IN COMMAND

3. REASON FOR OCCURRENCE UNDETERMINED

Occurrence #3: IN FLIGHT COLLISION WITH OBJECT

Phase of Operation: EMERGENCY LANDING AFTER TAKEOFF

Findings

4. OBJECT - POLE

Occurrence #4: ON GROUND/WATER COLLISION WITH OBJECT

Phase of Operation: EMERGENCY LANDING AFTER TAKEOFF

Findings

5. OBJECT - VEHICLE

Factual Information

On July 12, 2001, about 1735 eastern daylight time, a Piper PA-34-200T, N3054J, registered to Mrx Aviation Inc., operating as a Title 14 CFR Part 91 business flight, impacted with a light pole and seven vehicles during a forced landing on an interstate highway, shortly after departure from the Boca Raton Municipal Airport, Florida. Visual meteorological conditions prevailed. An instrument flight rules flight plan was filed. The airplane was substantially damaged. The commercial-rated pilot, a passenger on the airplane, and about 12 people on the ground reported minor to no injuries. The flight had just departed and was en route to Sanford, Florida.

The pilot said he had landed at Boca Raton earlier in the day, conducted some business in the local area and was returning to Sanford when the accident occurred. He said he had put about 140 gallons of fuel on the aircraft at one of the fixed-base operators at the airport before departure.

The pilot said he had lifted off of runway 24, when the left engine lost power. He retracted the landing gear, and attempted to feather the left engine by cycling the propeller lever without success. At this point he could not maintain altitude or airspeed. He noted that he was low, and that the airspeed had decayed to 78 knots (83 was V_{mc} [minimum control speed]). He elected to land on Interstate Highway 95, before the airplane started a V_{mc} roll. He landed in a southerly direction on the northbound lanes of the highway, first striking a light pole with the left wing, and then seven vehicles. The airplane traveled in a southerly direction; gear up, for about 1/4 of a mile before coming to rest with the nose heading in a westerly direction.

According to the pilot's statement, as he started to taxi he positioned the fuel selectors to the "cross feed position" to test that the cross feed worked. After positioning in the run up area he said he ".....pulled the switches full forward to the 'on' position." He then completed a run-up, checked both engines and found that "all gauges were normal." In addition, during the pre-takeoff checklist he also "...visually and manually checked that the fuel selectors were in the on position." When cleared for takeoff he "made a normal take off," and nothing "unusual" occurred until shortly after putting the gear up, that is when "the left engine failed." He estimated that his altitude was "between 150-200 feet." The airplane yawed sharply to the left, and the left engine rpm fell "rapidly." The pilot said he checked that the mixture, propellers, and throttles were full forward, and that the fuel selector was on. He said, ".....I checked the fuel selectors by feel only." He applied right rudder, lowered the nose and attempted to feather the left engine. The left engine "did not feather," so he elected "not" to return to the airport, and attempt an emergency landing. He alerted the control tower, and turned toward the interstate ".....hopeful of finding a medium or clear area on the southbound lanes to land the airplane." He recycled the left engine feather control and made the decision to land gear up. After landing on the roadway the airplane traveled southbound before coming to a stop. The two

occupants evacuated the airplane after the passenger said he was "in a puddle of fuel." The pilot stated that he undid his seatbelt then "...reached down and moved the fuel selectors back. They were full forward in the 'on' position. I missed the 'off' and mistakenly moved them to cross feed as I exited the airplane." When the NTSB IIC arrived at the crash site and observed the cockpit, the fuel selectors showed that both engine fuel selectors were in the "crossfeed" position.

According to the Florida Highway Patrol report, as the airplane approached the interstate the left wing struck an overhead light pole, causing the airplane to land on the northbound lanes instead of "...his intentions to land on the southbound lanes." The airplane impacted the roadway, and skidded on the inside lanes of the northbound lane for about 621 feet before coming to rest. Fuel was evident on the roadway after the wings separated, and the fuel tanks were breached.

The left engine was test run at the facilities of Certified Engines Inc., Opa Locka, Florida, on July 17, 2001. The engine was run up to 1700 rpm, the limits of the test stand, and no discrepancies were found (See the Continental Motor Engine Run Report, an attachment to this report). In addition, the FAA inspector stated that fuel was found in the left engine. The fuel was visually examined for contamination and water, none was observed.

According to the FAA inspector's statement, examination of the right engine revealed, compression and valve action on all cylinders, spark on both magnetos, fuel in the fuel line between the mechanical fuel pump and diverter valve, and turbo charger rotation. In addition he stated, "...the right propeller has substantial rotational damage...it appears that the right engine was operating normally."

Pilot Information

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| Certificate: | Commercial | Age: | 55, Male |
| Airplane Rating(s): | Single-engine land; Multi-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: | No |
| Medical Certification: | Class 3 Valid Medical-w/ waivers/lim | Last FAA Medical Exam: | September 9, 1999 |
| Occupational Pilot: | No | Last Flight Review or Equivalent: | August 28, 1999 |
| Flight Time: | 3038 hours (Total, all aircraft), 150 hours (Total, this make and model), 1627 hours (Pilot In Command, all aircraft), 7 hours (Last 90 days, all aircraft), 2 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft) | | |

Aircraft and Owner/Operator Information

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|--------------------------------------|------------------------------|---------------------------------------|-----------------|
| Aircraft Make: | Piper | Registration: | N3054J |
| Model/Series: | PA-34-200T | Aircraft Category: | Airplane |
| Year of Manufacture: | | Amateur Built: | |
| Airworthiness Certificate: | Normal | Serial Number: | 34-79700065 |
| Landing Gear Type: | Retractable - Tricycle | Seats: | 6 |
| Date/Type of Last Inspection: | October 27, 2000 Annual | Certified Max Gross Wt.: | 4570 lbs |
| Time Since Last Inspection: | 121 Hrs | Engines: | 2 Reciprocating |
| Airframe Total Time: | 4973 Hrs at time of accident | Engine Manufacturer: | Continental |
| ELT: | Installed, not activated | Engine Model/Series: | TSIO-360-EBIA |
| Registered Owner: | Mrx Aviation Inc. | Rated Power: | 200 Horsepower |
| Operator: | Kenneth B. Miller | Operating Certificate(s) Held: | None |

Meteorological Information and Flight Plan

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|---|----------------------------------|---|------------------|
| Conditions at Accident Site: | Visual (VMC) | Condition of Light: | Day |
| Observation Facility, Elevation: | BCT,13 ft msl | Distance from Accident Site: | 2 Nautical Miles |
| Observation Time: | 17:33 Local | Direction from Accident Site: | 50° |
| Lowest Cloud Condition: | Scattered / 5000 ft AGL | Visibility | 10 miles |
| Lowest Ceiling: | None | Visibility (RVR): | |
| Wind Speed/Gusts: | 5 knots / | Turbulence Type Forecast/Actual: | / |
| Wind Direction: | 140° | Turbulence Severity Forecast/Actual: | / |
| Altimeter Setting: | 30.02 inches Hg | Temperature/Dew Point: | 31°C / 26°C |
| Precipitation and Obscuration: | No Obscuration; No Precipitation | | |
| Departure Point: | Boca Raton, FL (BCT) | Type of Flight Plan Filed: | None |
| Destination: | Sanford, FL (SFB) | Type of Clearance: | IFR |
| Departure Time: | 17:34 Local | Type of Airspace: | Class C |

Airport Information

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|-----------------------------|------------------|----------------------------------|----------------|
| Airport: | Boca Raton KBCT | Runway Surface Type: | Asphalt |
| Airport Elevation: | 13 ft msl | Runway Surface Condition: | Dry |
| Runway Used: | 24 | IFR Approach: | None |
| Runway Length/Width: | 6267 ft / 150 ft | VFR Approach/Landing: | Forced landing |

Wreckage and Impact Information

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|----------------------------|------------------|-----------------------------|----------------------|
| Crew Injuries: | 1 None | Aircraft Damage: | Substantial |
| Passenger Injuries: | 1 None | Aircraft Fire: | None |
| Ground Injuries: | 12 Minor | Aircraft Explosion: | None |
| Total Injuries: | 12 Minor, 2 None | Latitude, Longitude: | 26.378334,-80.107498 |

Administrative Information

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| Investigator In Charge (IIC): | Yurman, Alan |
| Additional Participating Persons: | Bruce Hill; FAA; Fort Lauderdale, FL |
| Original Publish Date: | June 4, 2002 |
| Last Revision Date: | |
| Investigation Class: | Class |
| Note: | The NTSB traveled to the scene of this accident. |
| Investigation Docket: | https://data.ntsb.gov/Docket?ProjectID=52689 |

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](#).