



# Aviation Investigation Final Report

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|--------------------------------|--------------------------------------|-------------------------|-------------|
| <b>Location:</b>               | BALTIMORE, Maryland                  | <b>Accident Number:</b> | BF087LA054  |
| <b>Date &amp; Time:</b>        | August 13, 1987, 18:07 Local         | <b>Registration:</b>    | N6801U      |
| <b>Aircraft:</b>               | MOONEY M20C                          | <b>Aircraft Damage:</b> | Substantial |
| <b>Defining Event:</b>         |                                      | <b>Injuries:</b>        | 1 None      |
| <b>Flight Conducted Under:</b> | Part 91: General aviation - Personal |                         |             |

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## Analysis

THE PLT REFUELED THE ACFT AT PRINCETON, NJ, BFR DEPARTING ON A FLT TO LINDEN, NJ, THEN CONTINUED ON TO LAUREL, MD. HE BELIEVED THAT HE HAD POSITIONED THE FUEL SELECTOR TO THE RGT FUEL TANK & SAID THAT HE HAD USED FUEL OUT OF THE SAME TANK UNTIL HE ARRIVED AT LAUREL. AT LAUREL, THE PLT POSITIONED THE FUEL SELECTOR TO THE LEFT TANK, WHICH HE BELIEVED WAS FULL. HE THEN DEPARTED ON A RETURN FLT TO PRINCETON. AS THE ACFT WAS CLIMBING THRU ABOUT 6000', THE ENG LOST POWER. THE PLT DIVERTED TO THE BALTIMORE-WASHINGTON ARPT, BUT DID NOT USE THE EMERGENCY PROCEDURE TO RESTART THE ENG. HE ARRIVED OVER THE ARPT AT A RELATIVELY HIGH ALT & ELECTED TO CIRCLE TWICE TO DSCND. HOWEVER, HE LOST TOO MUCH ALT & DRG THE FINAL APCH, HE WAS UNABLE TO REACH THE RWY. SUBSEQUENTLY, THE ACFT HIT APCH LIGHTS ABOUT 200' SHORT OF THE RWY. AN EXAM REVEALED THE LEFT FUEL TANK WAS EMPTY, THE RIGHT TANK WAS FULL & THE FUEL SELECTOR WAS POSITIONED TO THE EMPTY TANK. THE FUEL SELECTOR FUNCTIONED NORMALLY DRG AN OPNL CHECK.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

## Findings

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

### Findings

1. (C) FLUID,FUEL - STARVATION
2. (C) FUEL TANK SELECTOR POSITION - IMPROPER - PILOT IN COMMAND

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

### Findings

3. (C) EMERGENCY PROCEDURE - NOT FOLLOWED - PILOT IN COMMAND

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Occurrence #3: IN FLIGHT COLLISION WITH OBJECT  
Phase of Operation: APPROACH - VFR PATTERN - FINAL APPROACH

### Findings

4. (C) ALTITUDE - MISJUDGED - PILOT IN COMMAND
5. (C) DISTANCE - MISJUDGED - PILOT IN COMMAND
6. (F) OBJECT - APPROACH LIGHT/NAVAID

## Factual Information

### Pilot Information

|                                  |                                                                                                                                                                                                     |                                          |              |
|----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|--------------|
| <b>Certificate:</b>              | Private                                                                                                                                                                                             | <b>Age:</b>                              | 64, Male     |
| <b>Airplane Rating(s):</b>       | Single-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>             | No           |
| <b>Medical Certification:</b>    | Class 3 Valid Medical-w/<br>waivers/lim                                                                                                                                                             | <b>Last FAA Medical Exam:</b>            | May 22, 1986 |
| <b>Occupational Pilot:</b>       | No                                                                                                                                                                                                  | <b>Last Flight Review or Equivalent:</b> |              |
| <b>Flight Time:</b>              | 1650 hours (Total, all aircraft), 1500 hours (Total, this make and model), 1275 hours (Pilot In Command, all aircraft), 3 hours (Last 90 days, all aircraft), 2 hours (Last 24 hours, all aircraft) |                                          |              |

### Aircraft and Owner/Operator Information

|                                      |                        |                                       |                 |
|--------------------------------------|------------------------|---------------------------------------|-----------------|
| <b>Aircraft Make:</b>                | MOONEY                 | <b>Registration:</b>                  | N6801U          |
| <b>Model/Series:</b>                 | M20C M20C              | <b>Aircraft Category:</b>             | Airplane        |
| <b>Year of Manufacture:</b>          |                        | <b>Amateur Built:</b>                 |                 |
| <b>Airworthiness Certificate:</b>    | Normal                 | <b>Serial Number:</b>                 | 2516            |
| <b>Landing Gear Type:</b>            | Retractable - Tricycle | <b>Seats:</b>                         | 4               |
| <b>Date/Type of Last Inspection:</b> | June 12, 1987 Annual   | <b>Certified Max Gross Wt.:</b>       | 2575 lbs        |
| <b>Time Since Last Inspection:</b>   |                        | <b>Engines:</b>                       | 1 Reciprocating |
| <b>Airframe Total Time:</b>          | 1700 Hrs               | <b>Engine Manufacturer:</b>           | LYCOMING        |
| <b>ELT:</b>                          | Installed              | <b>Engine Model/Series:</b>           | O-360-A1D       |
| <b>Registered Owner:</b>             | RAYMOND ROTHSCHILD     | <b>Rated Power:</b>                   | 180 Horsepower  |
| <b>Operator:</b>                     | RAYMOND ROTHSCHILD     | <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> | BWI                              | <b>Distance from Accident Site:</b>         |             |
| <b>Observation Time:</b>                | 18:00 Local                      | <b>Direction from Accident Site:</b>        |             |
| <b>Lowest Cloud Condition:</b>          | Scattered / 25000 ft AGL         | <b>Visibility</b>                           | 20 miles    |
| <b>Lowest Ceiling:</b>                  | None                             | <b>Visibility (RVR):</b>                    |             |
| <b>Wind Speed/Gusts:</b>                | 9 knots /                        | <b>Turbulence Type Forecast/Actual:</b>     | /           |
| <b>Wind Direction:</b>                  | 120°                             | <b>Turbulence Severity Forecast/Actual:</b> | /           |
| <b>Altimeter Setting:</b>               | 30 inches Hg                     | <b>Temperature/Dew Point:</b>               | 27°C / 15°C |
| <b>Precipitation and Obscuration:</b>   | No Obscuration; No Precipitation |                                             |             |
| <b>Departure Point:</b>                 | LAUREL , MD (W18 )               | <b>Type of Flight Plan Filed:</b>           | IFR         |
| <b>Destination:</b>                     | PRINCETON , NJ (39N )            | <b>Type of Clearance:</b>                   | IFR         |
| <b>Departure Time:</b>                  | 17:45 Local                      | <b>Type of Airspace:</b>                    | Class E     |

## Airport Information

|                             |                          |                                  |                |
|-----------------------------|--------------------------|----------------------------------|----------------|
| <b>Airport:</b>             | BALTIMORE-WASHINGTON BWI | <b>Runway Surface Type:</b>      | Asphalt        |
| <b>Airport Elevation:</b>   | 146 ft msl               | <b>Runway Surface Condition:</b> | Dry            |
| <b>Runway Used:</b>         | 28                       | <b>IFR Approach:</b>             | None           |
| <b>Runway Length/Width:</b> | 9452 ft / 200 ft         | <b>VFR Approach/Landing:</b>     | Forced landing |

## Wreckage and Impact Information

|                            |        |                             |                           |
|----------------------------|--------|-----------------------------|---------------------------|
| <b>Crew Injuries:</b>      | 1 None | <b>Aircraft Damage:</b>     | Substantial               |
| <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 None | <b>Latitude, Longitude:</b> | 39.169956,-76.670509(est) |

## Administrative Information

|                                          |                                                                                                       |
|------------------------------------------|-------------------------------------------------------------------------------------------------------|
| <b>Investigator In Charge (IIC):</b>     | Jones, Dennis                                                                                         |
| <b>Additional Participating Persons:</b> | H V KLIPA; BALTIMORE , MD                                                                             |
| <b>Original Publish Date:</b>            | October 25, 1988                                                                                      |
| <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=11332">https://data.nts.gov/Docket?ProjectID=11332</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](#).