

AAIPU# A08-26761



AIR ACCIDENT INVESTIGATION AND PREVENTION UNIT CIVIL AVIATION DEPARTMENT

NASSAU, N. P., BAHAMAS

AIRCRAFT ACCIDENT REPORT

IN-FLIGHT BREAKUP

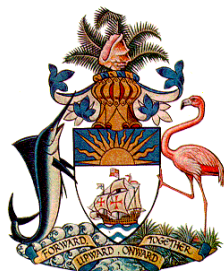
MOONEY M20C

N2943L

OFF WEST END, GRAND BAHAMA, BAHAMAS

MARCH 24, 2008





**Bahamas Department of Civil Aviation
Air Accident Investigation and Prevention Unit
P. O. Box AP-59244
Lynden Pindling International Airport
Nassau N. P., Bahamas**

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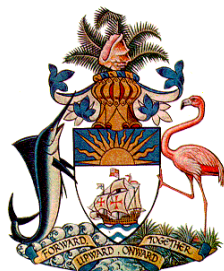
**IN-FLIGHT BREAKUP
OFF WEST END, GRAND BAHAMA, BAHAMAS
MARCH 24, 2008**

**AAIPU# A08-26761
Adopted April 26, 2010**

Abstract: This report explains the circumstances surrounding the in-flight breakup of N2943L a Mooney M20C aircraft which occurred shortly after the aircraft departed Freeport Int'l Airport, Freeport, Grand Bahama, Bahamas. The final destination of the flight was Fort Pierce Int'l Airport, Fort Pierce, Florida USA.

NOTE: THIS CASE HAS REMAINED OPEN FOR THE PAST TWO (2) YEARS. TO DATE THERE HAS STILL BEEN NO FURTHER INFORMATION ON THIS AIRCRAFT. THIS CASE IS THEREFORE CONSIDERED CLOSED.





Bahamas Department of Civil Aviation Air Accident Investigation and Prevention Unit

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Letter to Director

March 31, 2008

Mr. Patrick Rolle
Director
Civil Aviation Department
Seaban House
Crawford Street, Oakes Field
P.O. Box N-975
Nassau, N.P., Bahamas

Sir

The attached report summarizes the investigation into the circumstances of the accident involving a Mooney M20C aircraft, US Registration N2643L, registered to Mr. James M. Jones of Vero Beach, Florida, USA. This accident occurred on March 24, 2008 at around 1:45pm local (17:45Z) in waters off Old Settlements Point, West End, Grand Bahama, Bahamas. The airplane has not been located and is presumed to be destroyed. The Private rated pilot and his passenger have not been located and are presumed to be fatally injured. As this accident occurred more than 24 months ago and no further information has been received about this aircraft, this case is considered closed.

This report is submitted pursuant to Part XII, Regulation 80, and Schedule 19 of the Bahamas Civil Aviation (Safety) Regulation (CASR 2001) and in accordance with Annex 13 to the Convention on International Civil Aviation Organization (ICAO).

In accordance with Annex 13 to the Convention on International Civil Aviation (ICAO), and Schedule 19 of the Bahamas Civil Aviation (Safety) Regulations (CASR April 17, 2001), the fundamental purpose of such investigations is to determine the circumstances and causes of these events, with a view to the preservation of life and the avoidance of similar occurrences in the future. It is not the purpose of such investigations to apportion blame or liability.

This information is published to inform the aviation industry and the public of the circumstances surrounding this accident. The contents of this Report may be subjected to alterations or corrections if additional information becomes available.

Delvin R. Major
Investigator in Charge
Bahamas Department of Civil Aviation
Air Accident Investigation & Prevention Unit





BAHAMAS CIVIL AVIATION DEPARTMENT
AIR ACCIDENT INVESTIGATION AND PREVENTION UNIT

TITLE

Operator: Private Operator
Manufacturer: Mooney
Model: M20C
Nationality: United States of America
Registration: N2943L
Place of Accident: Off West End, Grand Bahama, Bahamas
Date of Accident: March 24, 2008

SYNOPSIS

Notification: DCA, FSI, FAA, NTSB
Investigating Authority: Civil Aviation Department
Air Accident Investigation and Prevention Unit
Investigator in Charge: Delvin R. Major
Accredited Representative: Mr. William Standing - FAA
Mr. James Jelinski – FAA
International Civil Aviation Organization - ICAO
National Transportation Safety Board -NTSB
Releasing Authority: Civil Aviation Department



ABBREVIATIONS and TERMINOLOGY

ADDS	Aviation Digital Data Service - Report by Meteorological Department
AIS	Automatic Information Services
ATS	Air Traffic Services
BDCA	Bahamas Department of Civil Aviation
CASR	Bahamas Civil Aviation (Safety) Regulations (April 17, 2001)
C of A	Certificate of Airworthiness
C of R	Certificate of Registration
CG	Center of Gravity
CVR	Cockpit Voice Recorder
DCA	Director of Civil Aviation
DFDR	Digital Flight Data Recorder
CAD	Civil Aviation Department
EST	Eastern Standard Time (-5 hours (-4DT) to convert from UTC)
FAA	Federal Aviation Administration
FSI	Flight Standards Inspectorate
FSS	Flight Service Station
ICAO	International Civil Aviation Organization
ILS	Instrument Landing System
IFR	Instrument Flight Rules
IMC	Instrument Meteorological Condition
MALSF	Medium-intensity Approach Lighting System (with sequenced flashers)
MET	Meteorological Office / Department
METAR	Weather Report furnished by Meteorological Department
MIRL	Medium Intensity Runway Lights
NDB	Non-directional Beacon
NM or nm	Nautical Miles
NTSB	National Transportation Safety Board
PAPI	Precision Approach Path Indicator
SEP	Survival and Emergency Procedures Training
T/L	Technical Log
TAF	Terminal Area Forecast
TSBC	Transportation Safety Board of Canada
USA	United States of America
VFR	Visual Flight Rules
VOR	(Very High Frequency) Omni-directional Range Station
VMC	Visual Meteorological Conditions
UTC	Universal Coordinated Time
Z	Zulu time



DEFINITIONS

When the following terms are used in the Standards and Recommended Practices for Aircraft Accident and Incident Investigation, they have the following meaning:

Accident. An occurrence associated with the operation of an aircraft which takes place between the time any person boards the aircraft with the intention of flight until such time as all such persons have disembarked, in which:

a) a person is fatally or seriously injured as a result of:

- being in the aircraft, or
- direct contact with any part of the aircraft, including parts which have become detached from the aircraft, or
- direct exposure to jet blast, except when the injuries are from natural causes, self inflicted or inflicted by other persons, or when the injuries are to stowaways hiding outside the areas normally available to the passengers and crew; or

b) the aircraft sustains damage or structural failure which:

- adversely affects the structural strength, performance or flight characteristics of the aircraft, and
- would normally require major repair or replacement of the affected component, except for engine failure or damage, when the damage is limited to the engine, its cowlings or accessories; or for damage limited to propellers, wing tips, antennas, tires, brakes, fairings, small dents or puncture holes in the aircraft skin; or

c) the aircraft is missing or is completely inaccessible.

Note 1.— For statistical uniformity only, an injury resulting in death within thirty days of the date of the accident is classified as a fatal injury by ICAO.

Note 2.— An aircraft is considered to be missing when the official search has been terminated and the wreckage has not been located.

Accredited representative. A person designated by a State, on the basis of his or her qualifications, for the purpose of participating in an investigation conducted by another State.

Adviser. A person appointed by a State, on the basis of his or her qualifications, for the purpose of

assisting its accredited representative in an investigation.

Aircraft. Any machine that can derive support in the atmosphere from the reactions of the air other than the reactions of the air against the earth's surface.

Causes. Actions, omissions, events, conditions, or a combination thereof, which led to the accident or incident.

Fatal injury. - means any injury which results in death within 30 days of the accident.

Flight recorder. Any type of recorder installed in the aircraft for the purpose of complementing accident/incident investigation.

Incident. An occurrence, other than an accident, associated with the operation of an aircraft which affects or could affect the safety of operation.

Note.— The types of incidents which are of main interest to the International Civil Aviation Organization for accident prevention studies are listed in the Accident/Incident Reporting Manual (Doc 9156).

Investigation. A process conducted for the purpose of accident prevention which includes the gathering and analysis of information, the drawing of conclusions, including the determination of causes and, when appropriate, the making of safety recommendations.

Investigator-in-charge. A person charged, on the basis of his or her qualifications, with the responsibility for the organization, conduct and control of an investigation.

Note.— Nothing in the above definition is intended to preclude the functions of an investigator-in-charge being assigned to a commission or other body.

Maximum mass. Maximum certificated take-off mass.

Operator. A person, organization or enterprise engaged in or offering to engage in an aircraft operation.

Preliminary Report. The communication used for the prompt dissemination of data obtained during the early stages of the investigation.



Safety recommendation. A proposal of the accident investigation authority of the State conducting the investigation, based on information derived from the investigation, made with the intention of preventing accidents or incidents.

Serious incident. An incident involving circumstances indicating that an accident nearly occurred.

Note 1.— The difference between an accident and a serious incident lies only in the result.

Note 2.— Examples of serious incidents can be found in Attachment C of Annex 13 and in the Accident/Incident Reporting Manual (Doc 9156).

Serious injury. An injury which is sustained by a person in an accident and which:

- a) requires hospitalization for more than 48 hours, commencing within seven days from the date the injury was received; or
- b) results in a fracture of any bone (except simple fractures of fingers, toes or nose); or
- c) involves lacerations which cause severe hemorrhage, nerve, muscle or tendon damage; or
- d) involves injury to any internal organ; or
- e) involves second or third degree burns, or any burns affecting more than 5 per cent of the body surface; or
- f) involves verified exposure to infectious substances or injurious radiation.

State of Design. The State having jurisdiction over the organization responsible for the type design.

State of Manufacture. The State having jurisdiction over the organization responsible for the final assembly of the aircraft.

State of Occurrence. The State in the territory of which an accident or incident occurs.

State of the Operator. The State in which the operator's principal place of business is located or, if there is no such place of business, the operator's permanent residence.

State of Registry. The State on whose register the aircraft is entered.

Note.— In the case of the registration of aircraft of an

international operating agency on other than a national basis, the States constituting the agency are jointly and severally bound to assume the obligations which, under the Chicago Convention, attach to a State of Registry. See, in this regard, the Council Resolution of 14 December 1967 on Nationality and Registration of Aircraft Operated by International Operating Agencies which can be found in Policy and Guidance Material on the Economic Regulation of International

“State of Design” - The State having jurisdiction over the organization responsible for the type design

“State of Manufacture” - The State having jurisdiction over the organization responsible for the final assembly of the aircraft.

"Substantial damage" - means damage or failure which adversely affects the structural strength, performance, or flight characteristics of the aircraft, and which would normally require major repair or replacement of the affected component. Engine failure or damage limited to an engine if only one engine fails or is damaged, bent failings or cowling, dented skin, small punctured holes in the skin or fabric, ground damage to rotor or propeller blades, and damage to landing gear, wheels, tires, flaps, engine accessories, brakes, or wingtips are not considered "substantial damage" for the purpose of this Report.



OVERVIEW

On March 24, 2008 at approximately 1745 (UTC) a Mooney M20C, single engine, piston airplane, N2943L, owned by James M. Jones and operated by David Castle on a private flight from Freeport International Airport, Freeport Grand Bahama to Fort Pierce, Florida (KFPR) was involved in an in-flight breakup and went down in waters off Settlements Point, West End, Grand Bahama, Bahamas.

The aircraft departed Freeport International Airport at 1714Z, Freeport Grand Bahama for Fort Pierce, Florida (KFPR). There was 1 pilot and 1 passenger on board. The pilot, passenger nor any substantial parts of the plane were recovered.

The weather conditions in the vicinity of Freeport International Airport between 1700 UTC and 2300 UTC on March 24, 2008 indicated a fairly large Thunderstorm cell located to the southeast of Grand Bahama. *See 1.7 for full weather report.*



1.0 FACTUAL INFORMATION:

1.2 HISTORY OF THE FLIGHT

On March 24, 2008, N2943L, registered to James M. Jones, a private aircraft was involved in an in-flight breakup and went down in waters off Settlements Point, West End, Grand Bahama, Bahamas.

The private flight departed Freeport International Airport, Freeport Grand Bahama enroute to Fort Pierce, Florida (KFPR). The aircraft was in contact with Air Traffic Control and never made any reports of having any mechanical irregularities.

The pilot held a United States issued Private Pilot Certificate with a valid Medical certificate issued February 26, 2008. The pilot and passenger are presumed to be fatally injured. Instrument Meteorological conditions prevailed at the time of the accident.

An international Visual Meteorological Flight Plan was filed with Grand Bahama Airport Company.

A fisherman in the area was the only known eyewitness and gave a statement about what he saw. He revealed that “a loud noise was heard which he thought was thunder and upon looking up, saw what appeared to be an airplane engine falling from the sky. The engine blew up upon hitting the water.” Additionally, “several other pieces of what was thought to be an aircraft wing and other pieces of debris fell from the sky.” The eyewitness reported that he attempted to contact the Coast Guard and other officials at Freeport, Grand Bahama.

The eye witness further stated that “upon closer examination of the area of the fallen debris, he observed parts of an airplane as well as what looked like a male with no shirt on. However, due to the intensity of the falling rain and the darkness of the area, by the time he turned around to look for the body he lost sight of it.” The eye witness retrieved as much of the floating debris as he could which led the authorities to the identification of the aircraft. The authorities later recovered an inflated life raft as well as seats and other smaller debris, however, no substantial parts of the aircraft nor the occupants were found.

The accident occurred during the day at approximately 1:45pm (1745 UTC).



For full weather *report see 1.7*. The accident occurred at approximate coordinates N26° 41.246 and W 79° 01.145.

1.2 INJURIES TO PERSONS

Fatal (2).

1.3 DAMAGE TO AIRCRAFT

Unknown. Smaller pieces of the aircraft and other debris were found in the water but no substantial parts of the aircraft were recovered.

1.4 OTHER DAMAGE

None reported.

1.5 PERSONNEL INFORMATION

At the time of the accident the aircraft was under the command of Mr. David Castle. Mr. Castle, a 50 year old male, was in possession of a valid FAA License (Private Pilot).

1.6 AIRCRAFT INFORMATION

N2943L serial number # 670077 model M20C is a 1976 single reciprocating engine aircraft manufactured by Mooney. Time on the aircraft unknown at this time.

Engines

N2943L is fitted with one Lycoming engine model O&VO-360 standard engine. The engine is fitted to the front of the aircraft. Times on the engine are unknown.

1.7 METEOROLOGICAL INFORMATION

Weather reports furnished by the Air Traffic Manager in Freeport (MYGF) reported that just after 1700UTC, a fairly large thunderstorm cell was located to the southeast of Grand Bahama. The cell moved from this position eastward parallel to the island's southern shoreline. At the 1900 UTC observation, the cell was located

to the southeast of MYGF still moving towards the east.

At 1700 UTC the METAR reported wind calm, visibility 8nm with showers in the vicinity. Clouds were located, few at 1,500 ft, broken at 4,000ft and an overcast layer at 12,000ft. Recent Rain was reported in the area.

TAF (Area Forecast) reported from 1818 UTC on 24 March to 1530 UTC on 25 March winds 340 at 13 kts, showers in the vicinity. Between 1800 and 2200 UTC probability existed for 30% probability of rain. Variable winds to 26 kts with 1.6 km visibility in heavy thunderstorms with scattered clouds at 800 feet with overcast layers at 1,100 feet in Cumulonimbus clouds.

1.8 AIDS TO NAVIGATION

Navigational aids were not a factor in this accident.

1.9 COMMUNICATIONS

The pilot was in communication with the control tower at Freeport International Airport (MYGF). After communicating with ATC in Freeport and acknowledging reported traffic advice, no other communication was made between aircraft and ATC. At no time did the pilot advise ATC of any problems with the aircraft.

1.10 AERODROME INFORMATION

The aircraft took off from Freeport International Airport (MYGF) enroute to Fort Pierce, Florida (KFPR).

1.11 FLIGHT RECORDERS

N2943L was not equipped with a Cockpit Voice Recorder.



1.12 WRECKAGE AND IMPACT INFORMATION

Wreckage information not available. Eyewitness reports the aircraft broke up in flight and he saw pieces of the wing and other debris, however no substantial part of the aircraft was recovered.

1.13 MEDICAL AND PATHOLOGICAL INFORMATION

The pilot and passenger were never recovered. However, pieces of flesh were recovered and determined to be human. Official report from the Medical Examiner is outstanding. No further information was available up to production of this report.

1.14 FIRE

No determination could be made to establish whether or not there was a pre or post flight fire as the wreckage was never recovered.

1.15 SURVIVAL ASPECTS

Not survivable.

1.16 TESTS AND RESEARCH

No substantial portions of the aircraft were recovered enough to warrant further testing.

1.17 ADDITIONAL INFORMATION

Not Applicable



2.0 ANALYSIS

2.1 GENERAL

- **Pilot qualifications** – Pilot has Private Pilot Certificate and a valid medical issued on 2/26/2008.
- **Weather** – A fairly large Thunderstorm cell existed at the time and may have been a factor in this accident see 1.7.
- **ATC** – Air Traffic Control was available at the Freeport International Airport and provided assistance to the aircraft. No report was made to ATC to advise of any mechanical irregularities with the aircraft.
- **Aids to Navigation** – navigational aid were operational and was not a factor in the accident.

2.2 AIRCRAFT

- The Mooney M20C aircraft is a single reciprocating-engine airplane with a retractable tricycle landing gear configuration. No further information available. Records requested from registered owner. Up to the production of this report information requested not received.

3.0 FINDINGS:

1. Aircraft involved in an in-flight break-up.
2. Pilot held a Private Pilot Certificate.
3. Pilot did not have an instrument rating.
4. At time of accident the weather was reported by eyewitness as severe with heavy rain, lightning and dark low clouds.

PROBABLE CAUSE

- In-flight breakup
- **The cause of the in-flight breakup is undetermined. The wreckage has not been recovered and all search and recovery efforts suspended.**

CONTRIBUTING FACTORS

- Possible Severe Weather (Thunderstorm/turbulence) encounter.
- Possible lightning strike.
- Pilot lack of appropriate training and qualification in instrument flying conditions.

4.0 SAFETY RECOMMENDATIONS:

Not applicable

The airplane has not been located and is presumed to be destroyed. The Private rated pilot and his passenger have not been located and are presumed to be fatally injured.

