

AAIPU# A09-28260

AIR ACCIDENT INVESTIGATION AND PREVENTION UNIT CIVIL AVIATION DEPARTMENT

NASSAU, N. P., BAHAMAS

AIRCRAFT ACCIDENT REPORT

SUDDEN ENGINE STOPPAGE

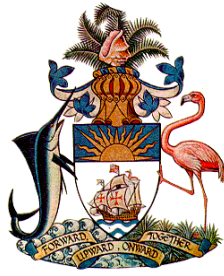
PIPER WARRIOR PA-28-151

N444HA

WEST END, GRAND BAHAMA, BAHAMAS

JULY 20, 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**

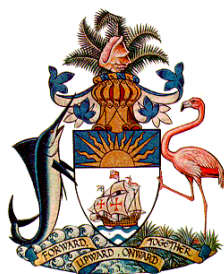
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**AAIPU# A09-28260
Adopted April 26, 2010**

Abstract: This report explains the circumstances surrounding the sudden engine stoppage, loss of control and crash of N444HA a PA-28-151 aircraft while the aircraft was enroute from Freeport Int'l Airport, Freeport, Grand Bahama, Bahamas to West Palm Beach, Florida, USA. Attempts were made to return to the closed airport at West End, Grand Bahama, Bahamas. Attempts were unsuccessful and the aircraft was ditched near West End, Grand Bahama.



Bahamas Department of Civil Aviation Air Accident Investigation and Prevention Unit

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Letter to Director

April 26, 2010

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 PA-28 aircraft, United States Registration N444HA, registered to Mr. Clive R. Ure, General Delivery, Sandy Point Settlement, Abaco, Bahamas. This accident occurred near West End, Grand Bahama on July 20, 2008.

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
Flight Standards Inspectorate
Department of Civil Aviation (Bahamas)



BAHAMAS CIVIL AVIATION DEPARTMENT
AIR ACCIDENT INVESTIGATION AND PREVENTION UNIT

TITLE

Operator: Clive F. Ure

Manufacturer: Piper Warrior

Model: PA 28-151

Nationality: United States of America

Registration: N444HA

Place of Accident: West End, Grand Bahama, Bahamas

Date of Accident: July 20, 2008

SYNOPSIS

Notification: DCA, NTSB, FAA, Piper Aircraft Inc., Lycoming Textron

Investigating Authority: Civil Aviation Department
Air Accident Investigation and Prevention Unit

Investigator in Charge: Delvin R. Major

Accredited Representative: Mr. Jeff Kennedy – NTSB
Mr. William Standing - FAA
Mr. Billie R. Jolly– FAA
Greg Erickson – Piper Aircraft

Releasing Authority: Civil Aviation Department

Date of Report Publication: April 27, 2010

ABBREVIATIONS and TERMINOLOGY

When the following terms are used in this report, they have the following meanings;

AAIPU	Air Accident Investigation and Prevention Unit
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
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
RCA	Root Cause Analysis
SEP	Survival and Emergency Procedures Training
T/L	Technical Log
USA	United States of America
VFR	Visual Flight Rules
VOR	(Very High Frequency) Omni-directional Range Station
VMC	Visual Meteorological Conditions
UTC / Z	Universal Coordinated Time / 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 July 20, 2008, the Grand Bahama Airport Company Limited Air Traffic Control (ATC) informed the Flight Standards Inspectorate at Lynden Pindling International Airport that aircraft N444HA, a Piper PA28-151 aircraft, was down. This information was later confirmed by Mr. Noel Curry, Assistant Superintendent of Police from the OIC West End Division.

The Police reported that at 7:00pm. Police Control in Freeport, Grand Bahama received a telephone call from an individual, who reported seeing an aircraft falling from the skies into waters off the western coast of West end Grand Bahama



It was reported that the aircraft departed Grand Bahama International Airport at 6:30pm enroute to West Palm Beach, Florida. Their flight path took them over the western end of West End, Grand Bahama, where they flew over the Ginn Sur Mer Development sight before continuing their flight towards West Palm Beach.

The pilot and owner of the aircraft, Clive Felix Ure of New Zealand reported that about 1,400ft AGL he heard a light knocking noise which was synchronized to the RPM of the engine approximately one and one half mile west of West End. At that point he reported that he made a 180 degree turn back towards West End runway, in an attempt to land at West End Private Airport.

The pilot was unable to make the airport, landing into the sea approximately one half to three quarter of a mile off West End, Grand Bahama.

After impact, aircraft N444HA sank in approximately one hundred (100) feet of water. The pilot and the passenger exited the aircraft prior to it sinking and were picked up by a passing vessel in the area.

The aircraft was later recovered from the ocean.



FACTUAL INFORMATION:

1.1 HISTORY OF THE FLIGHT

Piper PA28-151, United States Registration N444HA, was a private flight which originated from West End, Grand Bahama Abaco, direct to West Palm Beach, Florida at 2230Z (6:30pm).

Enroute to West Palm the pilot of the aircraft reported that about 1400ft AGL he heard a light knocking noise which was synchronized to the RPM of the engine approximately one and one half mile west of West End. It was just audible above the noise of the engine and without discussion he immediately turned the airplane 180 degrees back to West End runway. He made this turn so aggressively that the stall warning horn was going off as he turned. He told the passenger that it was strange the oil pressure and temperature gauges were reading normal with engine RPM at 2400 and fuel pressure was good. Immediately thereafter the engine seized completely.

Establishing a glide, the pilot only had time to make a quick mayday call to Miami Radio; open the door at about five (5) ft above the water threw on all flaps at once to flare the airplane. The airplane flared in ground effect for about two hundred (200) ft as the speed washed off and it stalled onto the surface of the water.

The rear wheel of the aircraft contacted first, immediately followed by the front wheels, the nose entered the water while travelling forward approximately 45MPH and it inverted. The cabin filled with water, at this point the pilot and the passenger unbelted themselves and swam to the surface.

The aircraft stayed afloat vertically nose down for about thirty (30) seconds before sinking.

The accident occurred during evening time. The Piper aircraft was later recovered from the ocean

1.2 INJURIES TO PERSONS

The pilot and his passenger received no injuries..

1.3 DAMAGE TO AIRCRAFT

Damage was confined to the propeller cone, both wing tips and both outboard leading edge of the wings. Additionally, the lower cowling of the engine sustained impact damage.



Damage to Wing tips



Damage sustained by the propeller dome.



Damage sustained by the lower engine cowling

1.4 OTHER DAMAGE

No other damage reported.

1.5 PERSONNEL INFORMATION

The aircraft was piloted by Mr. Clive Felix Ure. Mr. Ure, age 52 held a United States Private Pilot License with Airplane Single and Multi Engine Land Rating. Mr. Ure also held a Second Class Medical Certificate limitations, "Must wear corrective lenses" which was issued on January 13, 2007. FAA records listed no violations or inspections against the pilot.

1.6 AIRCRAFT INFORMATION – GENERAL

Piper Warrior serial number 28-7415644, was a reciprocating, single engine aircraft, manufactured in 1974 by Piper. Aircraft registered in the United States and bore the registration number N444HA. N444HA had an individual type registration issued April 24, 2007.

N444HA was fitted with a Lycoming engine series 0-320. It was listed in the Standard classification and normal utility category. Its airworthiness date was August 02, 1974.

1.6.1 AIRWORTHINESS AND MAINTENANCE

According to the pilot, the aircraft was purchased in 2004. When purchased there were no log books for the aircraft. A history of the aircraft was obtained from the FAA. As far as be ascertained, there was in excess of 8,000 hours on the aircraft airframe. The engine was very close to its time before overhaul period. The annual was completed and oil change and other minor repairs were done however this could not be verified because the log books of the aircraft were on the aircraft at the time of the crash.

During the recovery of the aircraft from the ocean in the presence of accident investigators, this logbook was not among items recovered from the aircraft.

1.7 METEOROLOGICAL INFORMATION

The weather in the area of the crash site, around the time of the accident, was reported as Visual Meteorological Conditions (VMC).

1.8 AIDS TO NAVIGATION

Navigational aids were not a factor in this accident.

1.9 COMMUNICATIONS

N444HA was in contact with Miami Radio as he had previously opened his enroute flight plan with them. He later was able to transmit a Mayday on this frequency with Miami Radio.

1.10 AERODROME INFORMATION

The aircraft did not land at the aerodrome at Freeport Int'l Airport.

1.11 FLIGHT RECORDERS

This aircraft did not have an installed flight voice recorder. It was not required by regulations for this type of aircraft.

1.12 WRECKAGE AND IMPACT INFORMATION

The pilot reported that he established best glide and opened the aircraft door at about 5 feet above the water. He applied flaps and flared the aircraft in ground effect for about 200 feet as the speed washed off and stalled the aircraft onto the surface of the water. The rear wheels contacted first, immediately followed by the front wheel, the nose entered the water when the aircraft was still travelling about 45 mph and the aircraft inverted.

The cabin filled with water, both occupants undid their seat belts, exited the aircraft, and swam to the top of the water. The aircraft stayed afloat vertically for about 30 seconds before finally sinking in about 100 feet of water.

The aircraft remained intact and damage was confined to the propeller, engine cowling and both wing leading edge and tip.

The aircraft was later recovered from the ocean and was brought back to Grand Bahama. The aircraft was secured and stored pending further inspection by engine and aircraft manufacturers.

1.13 MEDICAL AND PATHOLOGICAL INFORMATION

Not a factor in this investigation.

1.14 FIRE

Not a factor in this investigation.

1.15 SURVIVAL ASPECTS

Occupants were able to open the aircraft door prior to impact with the water. They both swam to the surface and were later picked up by a passing vessel.

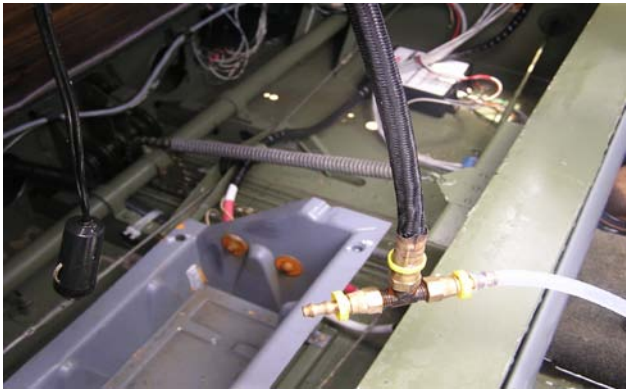
1.16 TESTS AND RESEARCH

Communications with both engine and aircraft manufacturer's regarding further tests and inspections were initiated.

Both declined to participate in further inspections as the aircraft had left their facility for such a long time that they had no further interest in the aircraft.

1.17 ADDITIONAL INFORMATION

Closer inspections of the aircraft by the Investigation authority revealed several modifications were made to the aircraft fuel systems and wrong hardware used on the exhaust system without the proper paperwork being supplied to justify the modifications. The unapproved modifications were reported to the Federal Aviation Administration for further investigation.



ANALYSIS:

2.1 GENERAL

- Crew qualifications – Private Pilot License in Airplane Single and Multi engine Land
- Weather – Visual Meteorological Condition existed at the time and was not a factor in this accident.
- ATC – Air Traffic Control not a factor . Pilot made Mayday call on Miami Radio prior to the aircraft making contact with the water.
- Aids to Navigation – Aids to navigation was not a factor in the accident. Aircraft had available to it Freeport VORTAC on 126.50MHz.

2.2 AIRCRAFT

- Aircraft maintenance – no history on the maintenance could be confirmed as the log books for the aircraft was in the aircraft at the time of the accident and went down with the aircraft.
- Mass and balance – according to the pilot the mass and balance was not a factor as the they only had light overnight bags on the aircraft.
- Aircraft Navigational Instrumentation –. No indication that navigational instruments played a role in the accident.

- Human factors – There was no evidence that incapacitation or physiological factors affected the pilot's performance.
- Psychological and physiological factors affecting personnel involved. - There was no evidence that the pilot suffered any sudden illness or incapacitation which might have affected their ability to control the aircraft.

CONCLUSIONS:

3.1 Findings

1. The pilot was properly certified and qualified for the flight.
2. The airplane was properly certificated in accordance with existing regulations.

3.2 Probable Cause

The probable cause has been determined as sudden engine stoppage.

Reasons for sudden stoppage undetermined, engine manufacturer refused any assistance with further inspections or teardown as the engine was so old there was no further interest in it.

3.2 Contributing Factors - unknown

SAFETY RECOMMENDATION

No recommendations made at this time.