

AAIPU# A10-00323



# AIR ACCIDENT INVESTIGATION AND PREVENTION UNIT CIVIL AVIATION DEPARTMENT

NASSAU, N. P., BAHAMAS

## AIRCRAFT ACCIDENT REPORT

GEAR UP LANDING

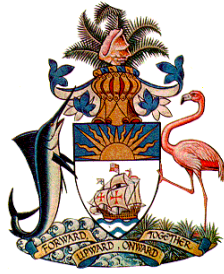
AERO COMMANDER

**N504AP**

LYNDEN PINDLING INT'L AIRPORT, NASSAU, BAHAMAS

March 30, 2010





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

## **AIRCRAFT ACCIDENT REPORT**

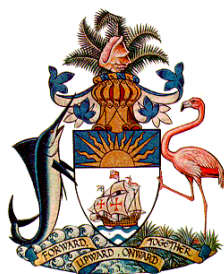
**AERO COMMANDER  
N504AP**

**GEAR UP LANDING  
LYNDEN PINDLING INT'L AIRPORT,  
NASSAU, BAHAMAS  
MARCH 30, 2010**

**AAIPU# A10-00323  
Adopted April 21, 2010**

Abstract: This report explains the circumstances surrounding the gear up landing of N504PA an Aero Commander aircraft which occurred while the aircraft was landing at Lynden Pindling Int'l Airport, Nassau, Bahamas.





## Bahamas Department of Civil Aviation Air Accident Investigation and Prevention Unit

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Letter to Director

April 20, 2010

Captain 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 N504AP, a Rockwell Aero Commander Aircraft model 500S, registered in the United States to Commander 504 LLC. This accident occurred on March 30, 2010 at approximately 8:05am local (1205 UTC) time on Runway 32 at Lynden Pindling Int'l Airport, Nassau, N. P., Bahamas.

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.

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





BAHAMAS CIVIL AVIATION DEPARTMENT  
AIR ACCIDENT INVESTIGATION AND PREVENTION UNIT

**TITLE**

**Operator:** Private Operator

**Manufacturer:** Rockwell Aero Commander

**Model:** 500 S

**Nationality:** United States of America

**Registration:** N504AP

**Place of Accident:** Lynden Pindling Int'l Airport, Nassau, Bahamas

**Date of Accident:** March 30, 2010

**SYNOPSIS**

**Notification:** DCA, FSI, FAA

**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

**Releasing Authority:** Civil Aviation Department

**Date of Report Publication:** April 21<sup>th</sup>, 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.





## BODY

### 1.0 FACTUAL INFORMATION:

#### 1.1 HISTORY OF THE FLIGHT

On Tuesday March 30, 2010 at approximately 08:05 am EST (1205 UTC) a fixed wing, multi engine, Aero Commander, Twin Commander 500S, registration N504PA crashed on landing at Lynden Pindling Int'l Airport, Nassau, Bahamas.

The accident occurred approximately 1,666 feet beyond the threshold of Runway 32, near intersection Alpha.

The pilot stated that "there was unusually high cross winds at the time of the landing which may have played a factor in him not hearing the gear warning horn sound."



Major damages were limited to the left propeller, left engine and the underside of the fuselage aft of the cockpit, extending to the aft cabin bulkhead.

The private flight departed Freeport Int'l Airport, Freeport, Grand Bahama, Bahamas.

The aircraft was operating under Visual Flight Rules (VFR). The weather at the time of the accident was reported as Visual Meteorological Condition (VMC).

#### 1.2 INJURIES TO PERSONS

No injuries were reported.

#### 1.3 DAMAGE TO AIRCRAFT

The aircraft sustained damages from impact. The left engine and propeller sustained impact damages from the propeller contact with the runway.

Indication in the cockpit showed the gear handle was not placed in the down position required for landing.



#### 1.4 OTHER DAMAGE

Damages were also sustained to the underside of the fuselage aft of the cockpit extending to the aft cabin bulkhead.

#### 1.5 PERSONNEL INFORMATION

The aircraft was piloted by 41 yr old Ricardo Junel Munnings of Freeport Grand Bahama, Bahamas. Mr. Munnings is the holder of a valid USA Commercial Pilot Certificate issued on March 16, 2009 with Airplane Multi and Single Engine Land category and Instrument class rating with no limitations. Mr. Munnings is also the holder of a valid USA second class medical certificate issued August 06, 2009. Mr. Munnings' medical certificate has no medical restrictions.

Mr. Munnings' total flying experience based on his last medical application is listed as 7,000 hours. Mr. Munnings experience on this type of aircraft is unknown. The amount of hours flown by Mr. Munnings in the last 24hr, 7days or the last 30 days prior to the accident is unknown. FAA record indicates there have been no violations or prior FAA-recorded aviation accident history against Mr. Munnings.



## 1.6 AIRCRAFT INFORMATION

Aircraft N504AP a US registered aircraft is manufactured by Rockwell Aero Commander, model 500S. This multi engine aircraft, manufactured in 1969 with serial number 1838-30 is registered to Commander 504 LLC at 1105 N Market St. Suite 1300.

The aircraft was fitted with reciprocating engine, model IO-54-E1B5, manufactured by Lycoming. The aircraft was listed in the normal category, standard classification. Airworthiness date of the aircraft is April 03, 2009.

The aircraft was operated privately.

No information was available about how much fuel was uplifted prior to the departure.

## 1.7 METEOROLOGICAL INFORMATION

Bahamas Meteorological Department Bahamas Area Forecast dated Tuesday March 30, 2010 valid for 12 hours from 1200 UTC was reviewed.

Special Features section of the report indicated cold front over the central Bahamas will move out of area by 2200 UTC.

Significant Weather section of the report indicated, over the northwest and central Bahamas, few and scattered clouds 1,800 to 2,500 feet. Scattered localized and broken clouds at 3,500 ft and 5,000 ft. Broken clouds at 10,000 ft with few isolated light showers.

Forecasted Upper Winds and Temperature for the same time period from 1200 UTC showed from the surface up to 2,000 feet in the Central Bahamas the winds were forecasted from a direction of 290 degrees and a speed of 13 knots.

## 1.8 AIDS TO NAVIGATION

Navigational Aids available at the time was Nassau VOR on frequency 112.7 MHz There was no report of any abnormalities with the VOR at the time of the accident.

## 1.9 COMMUNICATIONS

The pilot was in contact with Nassau Control Tower at the time of the accident.

## 1.10 AERODROME INFORMATION

Lynden Pindling Int'l Airport, IATA Designation NAS, ICAO Designation MYNN, Location Nassau New Providence, Bahamas. Altitude 16 ft / 5m above mean sea level (MSL). Coordinates latitude 25°02'20"N and longitude 077°27'58"W. Runway 14/32 length 11,018 ft / 3,358m Runway paved with asphalt. Runway 09/27 length 8,324 ft / 2,537m Runway paved with asphalt.

## 1.11 FLIGHT RECORDERS

N504AP was not fitted with a flight recorder as none was required by regulations for this type of aircraft.

## 1.12 WRECKAGE AND IMPACT INFORMATION

The aircraft sustained damages from impact. The left engine and propeller sustained impact damages from the propeller contact with the runway.



Damages were also sustained to the underside of the fuselage aft of the cockpit extending to the aft cabin bulkhead.

## 1.13 MEDICAL AND PATHOLOGICAL INFORMATION

Not applicable, no injuries reported.



## 1.14 FIRE

No pre or post fire was reported.

## 1.15 SURVIVAL ASPECTS

Not applicable.

## 1.16 TESTS AND RESEARCH

No tests were conducted.

## 1.17 ADDITIONAL INFORMATION

No additional information available.

## 2.0 ANALYSIS

### 2.1 GENERAL

- Pilot qualifications – The aircraft was piloted by 41 yr old Ricardo Junel Munnings of Freeport Grand Bahama, Bahamas. Mr. Munnings is the holder of a valid USA Commercial Pilot Certificate issued on March 16, 2009 with Airplane Multi and Single Engine Land category and Instrument class rating with no limitations. Mr. Munnings is also the holder of a valid USA second class medical certificate issued August 06, 2009. Mr. Munning's medical certificate has no medical restrictions.
- Weather – Weather was Visual Meteorological condition at the time of the accident.
- ATC was in contact with the aircraft.
- Aids to Navigation – Pilot had available to it Nassau VOR on 112.7 Mhz. no abnormalities were reported with the system.

### 2.2 AIRCRAFT

- Aircraft performance – performance was not a factor in this accident.

- Mass and balance – Not a factor in this accident
- Aircraft Navigational Instrumentation – not a factor in this accident.
- Psychological and physiological factors affecting personnel involved – not a factor in this accident.

## 3.0 CONCLUSIONS

1. The pilot was properly certified and qualified for the flight.
2. The airplane was properly certificated in accordance with existing regulations.
3. No record could be found to determine whether aircraft was maintained in accordance with regulations.

### 3.1 PROBABLE CAUSE

The probable cause of this accident has been determined as pilot distraction resulting in failure to extend landing gear.

### 4.0 SAFETY RECOMMENDATIONS:

As a result of this investigation the AAIPU makes no recommendations.



