



# Aviation Short Investigation Final Report

Collision with Obstacle during Take-off  
and Landing (CTOL)

Cessna 208B, N384TA

**North Bimini Seaplane Base, Bimini, Bahamas**

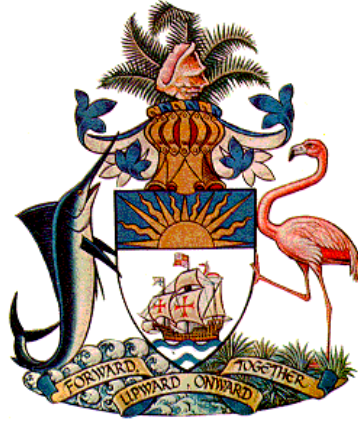
**23<sup>rd</sup> June 2024**

**AAIA Aviation Occurrence Investigation**

**Investigation Number #OCC-2024/0032**

**Final Report**

**16<sup>th</sup> December 2024**



Released in accordance with Section 25 and Section 1.445 of the *Aircraft Accident Investigation Authority Act 2019 and Regulations 2021 respectively*.

## **Publishing information**

Aircraft Accident Investigation Authority  
Lynden Pindling International Airport  
Domestic Terminal  
Unit A1.120  
P. O. Box CB-11702  
Nassau N. P., Bahamas  
Tel: 1 (242) 376-1617 or (242) 376-8334  
Fax: (242) 377-0272  
Email: [baaid@bahamas.gov.bs](mailto:baaid@bahamas.gov.bs)  
Website: <http://www.baaid.org>

## **Ownership of intellectual property rights in this publication**

Unless otherwise noted, copyright (and any other intellectual property rights, if any) in this publication is owned by the Aircraft Accident Investigation Authority of the Commonwealth of the Bahamas, P. O. Box CB-11702, Lynden Pindling International Airport, Domestic Terminal, Unit A1.120, Nassau, N. P., Bahamas.

## About the AAIA

The Aircraft Accident Investigation Authority (AAIA) is the independent accident investigation agency under the Bahamas Ministry of Energy & Transport (MOET) charged with the responsibility of investigating all aviation accidents and serious incidents in the Bahamas.

The AAIA's function is to promote and improve safety and public confidence in the aviation industry through excellence in:

- Independent investigation of aviation accidents and other safety occurrences
- Safety data recording, analysis and research
- Fostering safety awareness, knowledge and action.

**The AAIA does not investigate for the purpose of apportioning blame or to provide a means for determining liability.** At the same time, an investigation report must include factual material of sufficient weight to support the analysis and findings. At all times the AAIA endeavors to balance the use of material that could imply adverse comment with the need to properly explain what happened, and why, in a fair and unbiased manner.

The AAIA performs its functions in accordance with the provisions of the Aircraft Accident Investigation Authority Act 2019 and Regulations 2021, International Civil Aviation Organization (ICAO) Annex 13 and, where applicable, relevant international agreements.

The Aircraft Accident Investigation Authority is mandated by the Ministry of Energy & Transport to investigate aviation accidents and incidents, determine probable causes of accidents and incidents, issue safety recommendations, study transportation safety issues and evaluate the safety effectiveness of agencies and stakeholders involved in air transportation. The object of a safety investigation is to identify and reduce safety-related risk. AAIA investigations determine and communicate the safety factors related to the transport safety matter being investigated.

The AAIA makes public its findings and recommendations through accident reports, safety studies, special investigation reports, safety recommendations and safety alerts. When the AAIA issues a safety recommendation, the person, organization or agency is required to provide a written response without delay. The response shall indicate whether the person, organization or agency accepts the recommendation, any reasons for not accepting part or all of the recommendation(s), and details of any proposed safety action(s) resulting from the recommendation(s) issued.

## About this report

Decisions regarding whether to conduct an investigation, and the scope of an investigation, are based on many factors, including the level of safety benefit likely to be obtained from an investigation. For this occurrence, a limited-scope, fact-gathering investigation was conducted in order to produce a short summary report, and allow for greater industry awareness of potential safety issues and possible safety actions.

**AIRCRAFT ACCIDENT  
INVESTIGATION AUTHORITY**

**Registered Owner:** Four Tango Alpha LLC

**Operator:** Tropic Ocean Airways

**Manufacturer:** Textron Aviation

**Aircraft Type:** 208B Caravan

**Nationality:** United States

**Registration:** N384TA

**Place of Accident:** North Bimini Seaplane Base, Bimini, Bahamas

**Date and Time:** 23<sup>rd</sup> June 2024; 2:55 pm local (1855 UTC)

**Notification:** Civil Aviation Authority Bahamas (CAA-B)  
National Transportation Safety Board (NTSB)  
International Civil Aviation Organization (ICAO)

**Investigating Authority:** Aircraft Accident Investigation Authority (AAIA)

**Investigator in Charge:** Kendall Dorsett Jr.

**Accredited Representatives:** Ralph Hicks (NTSB)

**Releasing Authority:** Aircraft Accident Investigation Authority (AAIA)

**Date of Final Report Publication:** 16<sup>th</sup> December 2024

## What Happened?

On 23rd June 2024 at approximately 2:55 pm local (1855 UTC), an amphibious Cessna 208B Caravan with United States registration N384TA, operated by Tropic Ocean Airways, was involved in an occurrence while taking off from the North Bimini Seaplane Base, Bimini, Bahamas.

The commercial flight was operating as Tropic Ocean Airways Flight 1146, with a final destination of Fort Lauderdale International Airport (KFLA), Fort Lauderdale, FL, USA. There were a total of eight (8) passengers and two (2) crewmembers on board.

The incident flight was the sixth (6<sup>th</sup>) leg conducted by the flight crew that day. Up and until the time of the occurrence, there was no observation by the flight crew of any malfunctions or issues with the operation of the aircraft. At the time of the occurrence, the pilot in command (PIC) was the pilot flying (PF), and the second in command (SIC) was the pilot monitoring (PM).

At the beginning of the takeoff, the PF turned the aircraft to align for the departure, he advanced the power control lever, and called for set takeoff power per the Tropic Ocean Airways flight operations manual (FOM) procedures. Per the FOM, the PF calls for the setting of takeoff power, the PM fine tunes the power control lever position to the briefed takeoff power setting, adjusted for outside air temperature, and the PM states that takeoff power is set.

This initial step of standard calls initiates a sequence of challenge and response steps between the PF and PM (see Table 1). However, the flight crew did not follow the standard callouts within the FOM, specifically to verify that the engine was a “Good Engine”. Although takeoff power was set, the power set subsequently decreased resulting in an inadvertent reduced power takeoff.



*Fig.1: Photo of exposed embankment*

Action	Pilot Flying (PF)	Pilot Monitoring (PM)
PF- Set Torque, hand stays on throttle	"Set Takeoff Power"	
PM-Fine tune power from throttle base		"Takeoff Power Set"
PF-Start Water Takeoff	"Water Rudders Up"	
PM-Lift Water Rudders		"Water Rudders Up"
PF-Observe Power Set and Stable	"Checked"	"Good Engine"
Observe Airspeed Tape Rise	"Checked"	"Airspeed Alive"
Observe Airspeed passing 50 knots	"Checked"	"50 Knots"
Observe Airspeed passing 80 knots	"Checked"	"80 Knots"
PM-When Positive Climb is observed on VSI and Altimeter	"Gear Up"	"Positive Climb"
Observe Airspeed passing 95 knots	"Flaps Up"	"95 knots"
PF-Command Flap Retraction, as required PM-Will Verify Flap Selection and indicator	"Flaps Up"	"Flaps approach set/indicated"

*Table 1: Takeoff/Climb Call Outs*

The aircrew aborted the takeoff after impacting the embankment and returned to the seaplane dock uneventfully and disembarked the passengers.

Post incident inspection revealed the left float was punctured and taking on water.

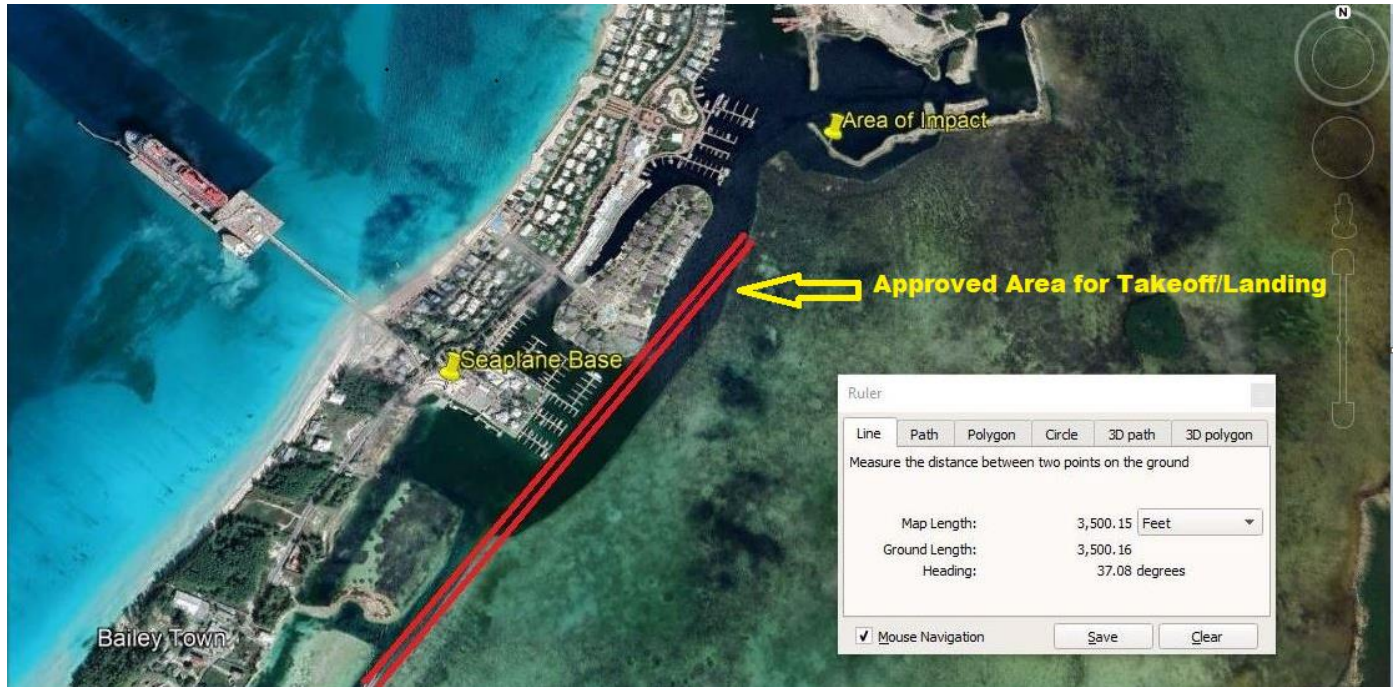


*Fig.2: Photo of Aircraft during Recovery Efforts*



## Takeoff Area

The area utilized by the operator for takeoff and landing was approved by the Civil Aviation Authority Bahamas (CAA-B) in accordance with CAR AGA<sup>1</sup> 4 Water Aerodromes.



*Fig.3: Approved takeoff and landing area*

The designated area (as depicted above in red lines), covers a distance of 3,500 feet. The flight crew indicated that during the takeoff roll, they did not utilize the full available length of 3,500 feet.

The distance between the end of the approved takeoff/landing area and the area of impact measured approximately 750 feet.

<sup>1</sup> CAR AGA – means the Civil Aviation Regulations – Aerodromes and Ground Aids

## Investigation Findings

### Pilot in Command

The pilot in command of the aircraft was 34 years old at the time of the occurrence, holding a Commercial Pilot certificate with Airplane Single Engine Land and Sea with Multiengine Land-Instrument Airplane issued by the Federal Aviation Administration (FAA) on 21<sup>st</sup> March, 2022.

The First Class Medical held by the pilot was issued the 29<sup>th</sup> August, 2023 with no limitations.

The pilot in command accumulated total flight time of approximately 2,374 hours, with 1,205 hours on type. Flight time within the preceding 30 days totaled approximately 101 hours, and the preceding seven (7) days approximately 31.5 hours.

Most recent training activity was a requalification training for position of pilot in command for Cessna 208/208B that was successfully completed on 22<sup>nd</sup> May 2024.

### Second in Command

The second in command of the aircraft was 29 years old at the time of the occurrence, holding a Commercial Pilots certificate with Airplane Single Engine Land and Sea with Multiengine Land-Instrument Airplane issued 12<sup>th</sup> March, 2024.

The First Class Medical held by the second in command was issued 18<sup>th</sup> December, 2023 with the limitations “Must use corrective lens(es) to meet vision standards at all required distances”.

The second in command accumulated total flight time of approximately 800 hours, with 260 on type. Flight time within the preceding 30 days totaled approximately 90.7 hours, and the preceding seven (7) days approximately 27.3 hours.

Most recent training activity was initial aircraft training for position of second in command for Cessna 208/208B that was successfully completed on 27<sup>th</sup> April 2024.

### The Aircraft

The Cessna 208B, commonly referred to as the Caravan, is a versatile single engine turboprop aircraft renowned for its remarkable performance capabilities and cost-effectiveness, making it a popular choice for various missions, including cargo transport and passenger services. This aircraft stands out as it is 4 feet longer than its predecessor, the original Caravan. Typically configured to seat up to nine passengers in a spacious unpressurized cabin, the Caravan can be adapted to accommodate up to 14 occupants, significantly enhancing its utility.

Powering the Cessna 208B is the reliable Pratt & Whitney Canada PT6A tractor turboprop engine, known for its efficiency and reliability. The aircraft boasts impressive performance metrics, including a takeoff ground roll of just 1,399 feet, allowing it to operate from shorter airstrips. With its all-metal, high-wing



design and tricycle landing gear, the Cessna 208B is built to endure various operational conditions while delivering consistent performance for general aviation needs.

## Aircraft Information

<b>Manufacturer</b>	Textron Aviation
<b>Type, model and Registration</b>	208B; N384TA
<b>Year of Manufacture</b>	2016
<b>Certificate Issue Date</b>	12/27/2016
<b>Expiration Date</b>	12/31/2029
<b>Serial Number</b>	208B5300
<b>Certificate of Airworthiness issue date</b>	06/02/2016
<b>Category</b>	Normal
<b>Total airframe time as of 12<sup>th</sup> June 2024</b>	4249.8
<b>Engine type, amount</b>	Pratt & Whitney PT6A-140; 1

## Aircraft Maintenance

Review of maintenance documentation revealed that the aircraft was maintained in accordance with the manufacturers' specifications and applicable regulatory requirements.

At the 100 hr. check interval, required engine, airframe, propeller, and float checks were completed and signed off appropriately for return to service.

The table below shows date of inspection as well as supplemental aircraft information.

<b>MODEL #</b>	<b>SERIAL #</b>	<b>REGISTRATION #</b>	<b>DATE</b>
C208B	5300	N384TA	6/12/2024
<b>TTAF</b>	<b>HOBBS</b>	<b>CYCLES</b>	<b>LANDINGS</b>
4249.8	4249.8	7377	7716

*Table 2: From maintenance log record*

## Weather

<b>Conditions at Accident site</b>	<b>Condition of Light</b>
Visual Meteorological Conditions	Day
<b>Observation Facility</b>	<b>Observation Time</b>
Grand Bahama Int'l Airport (MYGF), Grand Bahama, Bahamas	1800 UTC
<b>Distance From Accident Site</b>	<b>Temperature/Dewpoint</b>
57 nautical miles	27°C/23°C
<b>Lowest Cloud Condition</b>	<b>Wind</b>
FEW020	090/04 knots
<b>Altimeter Setting</b>	<b>Visibility</b>
30.00 in. HG	>6 Statute miles

Weather information was provided by the Bahamas Meteorological Department via a comprehensive weather package that included the Bahamas Area Forecast, METAR information, satellite imagery and surface analysis charts.

## Analysis

In the aftermath of the occurrence, after conducting inspections of the aircraft and engine, there was no observation or indication of a mechanical malfunction or issue that may have contributed to the event that ultimately led to the aircraft coming into contact with the embankment.

Operational elements were also examined, specifically relating to decision making and actions taken by the flight crew. During that process, there were deficiencies identified that were determined to be contributory to the occurrence.

Firstly, the full available takeoff distance of 3,500 feet was not utilized by the flight crew. Since the flight crew did not back taxi when exiting the channel near the seaplane base, they were leaving at least approximately some 1,200 feet of takeoff distance from use.

It was noted that the distance between the end of the approved takeoff/ landing area and the area of impact was approximately 750 feet, which is less than the distance the flight crew (approx. 1,200 feet) did not avail themselves of after not back taxiing upon exiting the area of the seaplane base.

Secondly, since the power control lever was not set to the full takeoff thrust setting, the aircraft was not producing the thrust required to successfully climb out of ground effect. This resulted in the aircraft impacting the rocky embankment shortly after rotation causing float damage to the left float.

The flight crew did not follow the standard callouts within the flight operations manual, verifying that the engine was a “Good Engine,” meaning that the engine was producing the anticipated and required takeoff thrust for the environmental conditions throughout the duration of the takeoff sequence.

The combination of these factors evidently resulted in the collision with obstacle sequence that unfolded.

## Findings

These findings should not be read as apportioning blame or liability to any particular organization or individual.

- 1) The aircraft was certified, registered and equipped in accordance with applicable United States Aviation Regulations and approved procedures.
- 2) The maintenance records indicated that the aircraft was maintained in accordance with existing United States Aviation Regulations and manufacturers' specifications.
- 3) The Pilot in Command was appropriately licensed for the flight in accordance with existing United States Aviation Regulations.
- 4) The Second in Command was appropriately licensed for the flight in accordance with existing United States Aviation Regulations.
- 5) Weather was not a factor in this occurrence.
- 6) There was no observation prior to the occurrence of any defect or malfunction with the aircraft or its components that could have contributed to the accident.
- 7) There was no evidence of airframe failure or system malfunction prior to the occurrence.
- 8) The aircraft was not equipped with a flight data recorder (FDR) or a cockpit voice recorder (CVR); neither was required by regulations.
- 9) At the time of the occurrence, the pilot in command (PIC) was the pilot flying (PF), and the second in command (SIC) was the pilot monitoring (PM).
- 10) The flight crew did not utilize the entire available takeoff length of 3,500 feet for takeoff.
- 11) During takeoff, the flight crew did not follow the standard callouts within the flight operations manual, verifying that the engine was a "Good Engine," meaning that the engine was producing the anticipated and required takeoff thrust for the environmental conditions throughout the duration of the takeoff sequence.
- 12) Flight crew executed a reduced power takeoff that subsequently led to aircraft coming into contact with an embankment.
- 13) Post incident inspection revealed the left float was punctured and taking on water.
- 14) There were no injuries reported in relation to this occurrence.

## Probable Cause

The AAIA has determined the probable cause of this occurrence (serious incident) to be collision with obstacle during takeoff/landing (CTOL) due to unintentional reduced power takeoff.

Contributing factors to this occurrence include:

- Inefficient utilization of crew resource management
- Lack of adherence to procedures as per the flight operations manual

## Safety Actions

In the aftermath of the occurrence, it was apparent that the Operator demonstrated utilization of Safety Management Systems (SMS) principles as management was actively engaged during the investigative process (Safety Policy), operational hazards were identified and risk assessed based on the occurrence (Safety Risk Management), risk control strategies and mitigation was implemented post-accident (Safety Assurance) and safety information was communicated and adjustments made to training curriculum based on what transpired (Safety Promotion).

## Safety Recommendations

There were no safety recommendations issued in relation to this occurrence.