Aircraft Accident Investigation Authority of the Bahamas

Aviation Short Investigation Final Report

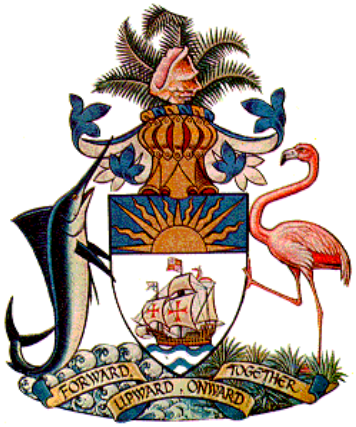
Collision with Obstacle during Takeoff (CTOL)

Cessna 402C – C6-JTJ

Lynden Pindling Int'l Airport (MYNN), Nassau, Bahamas
17th February 2024

AAIA Aviation Occurrence Investigation
Report # OCC-2024/0012

Date of Final Report
19th December 2024



Released in accordance with Section 25 of the Aircraft Accident Investigation Authority Act (AAIA) 2019 and Section 1.445 of the AAIA Regulations 2021.

Publishing information

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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, The 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 objective 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

Operator:	Blessings Aviation Ltd.
Manufacturer:	Cessna
Aircraft Type:	402C
Nationality:	Bahamas
Registration:	C6-JTJ
Place of Accident:	Lynden Pindling Int'l Airport (MYNN), Nassau, Bahamas
Date and Time:	17th February 2024; 4:40 pm local (2140 UTC)
Notification:	Civil Aviation Authority Bahamas (CAA-B) National Transportation Safety Board (NTSB) United States International Civil Aviation Organization (ICAO)
Investigating Authority:	Aircraft Accident Investigation Authority, Ministry of Energy &Transport
Investigator in Charge:	Saint-Tino Morley
Accredited Representatives:	Ralph Hicks (NTSB) United States
Releasing Authority:	Aircraft Accident Investigation Authority
Date of Final Report Publication:	19th December 2024

History of Flight

On 17th February 2024 at approximately 4:40 pm local time (2140 UTC), a Cessna 402C aircraft with Bahamas registration C6-JTJ, operated by Air Operator Certificate (AOC) holder Blessings Aviation, impacted the perimeter fencing at the Lynden Pindling International Airport (MYNN), Nassau, Bahamas before coming into contact with the ground and bursting into flames shortly after attempting to takeoff from runway 14. The pilot in command was the sole occupant on board the aircraft.

The flight was for commercial purposes and had a destination of Fresh Creek Airport (MYAF), Fresh Creek, Andros, Bahamas. The pilot in command reported that upon contacting Nassau air traffic control, he requested a runway 14 departure from taxiway Bravo, but his request was denied.

He subsequently requested a departure from taxiway Lima, which was granted by air traffic control. The pilot advised that upon receiving takeoff clearance from air traffic control, he entered the active runway and backtracked for additional room before commencing take off roll.

After adding takeoff power and accelerating for some distance down the runway, shortly after, the pilot observed the left manifold pressure starting to drop and the aircraft started to "pull to the left".

Recognizing that the a problem was arising, the pilot added additional power to the right engine and continued takeoff roll but after achieving some lift, the pilot reported to observe the aircraft stall and it was unable to clear the inner layer of perimeter fencing (height of approximately 12 feet), at a distance of approximately 820 feet from the approach end of threshold of runway 32.

The aircraft impacted the inner layer of perimeter fencing, hitting the surface and travelling for some 57 feet on a heading of approximately 123° before impacting the second outer layer of perimeter fencing. The aircraft's trajectory continued in that general direction travelling for an additional 216 feet, sliding across Coral Harbour Road before coming to rest in a swampy area.

The pilot advised that shortly after the aircraft came to rest, he observed flames from the left side of the aircraft which prompted him to make a hasty exit from the aircraft. While exiting the aircraft, the pilot observed flames on the outside, around the aircraft, and it was during his attempt to vacate the area, he received burns to the face.

As soon as he was able to vacate the general area of the downed aircraft, the pilot observed an explosion and the aircraft continued to burn.

Nassau Air Traffic Control alerted the requisite emergency services personnel including the Royal Bahamas Police Force (RBPF) and the Airport Authority Airport Rescue & Fire Fighting (ARFF) Services. ARFF promptly responded to the crash site with three (3) fire trucks (Oshkosh 6x6; Striker Oshkosh 6x6; Striker Oshkosh 4x4).

The ARFF team were able to suppress and ultimately extinguish the flames that had engulfed the aircraft and some of the foliage in the immediate vicinity. The pilot was taken by ambulance to receive medical attention for some burns received to the face. The aircraft was destroyed by fire.

Fig.1: Google Earth imagery of crash site in relation to runway 14 at MYNN

Injuries to Persons

Injuries	Crew	Passengers	Total
Fatal	0	0	0
Serious	0	0	0
Minor	1	0	1
None	0	0	0
TOTAL	1	0	1

Aircraft Information

The Cessna 402C is a notable and versatile aircraft with a rich history that has made a lasting impact on the aviation industry. Manufactured by Cessna Aircraft Company, this twin-engine turboprop aircraft has been widely recognized for its reliability, performance, and adaptability. The Cessna 402C has a remarkable heritage that spans several decades, establishing itself as a trusted choice for various aviation missions.

Derived from the Model 411, the Cessna 401 and 402 are essentially the same aircraft put to two different uses. The 401, introduced in 1966 and discontinued in 1972, was basically designed as a medium to light executive transport. The 402, introduced in conjunction with the 401 and in production until 1985, was intended for the third-level airline market and featured a cabin that was easily converted from cargo/utility to passenger seating.

The 402 was available in two versions: the Utililiner and the Businessliner. The former features a 10-place high-density seating arrangement for commuter operations. These seats can be easily removed for conversion to an all-cargo configuration.

The 402C, introduced in 1979, has an increased useful load of 349 pounds and two more passengers with added performance due to an engine upgrade to a 325-hp turbocharged Continental. The airplane accomplishes its increased payload feat by a lengthened bonded wet wing, rivet elimination, drag minimization, increased aspect ratio, and elimination of tip tanks. Its wing also enables fuel capacity to be increased to 213 gallons. The more powerful engine substantially increases single-engine rate of climb from 225 to 301 fpm. Maximum cruise was upped by two mph at 10,000 feet. Also, the engines were moved outboard more than five inches for greater propeller-to-fuselage clearance, resulting in a quieter cabin.

Aircraft Manufacturer	**Registration**
Cessna	C6-JTJ
Serial Number	**Registered Owner**
402C-0648	Blessings Aviation Ltd.
Model/Series	**Aircraft Category**
402C	Normal
Engine Manufacturer	**Engine Type**
Continental	TSIO-520-VB

This aircraft was powered by two Continental Motors, engine model TSIO-520-VB-9F. Both engines were equipped with McCauley Industrial Corp. propellers, model number 34F32C-500 Series.

The last recorded engine time of the #1 Engine (left), serial number 811059-R Since Major Over Haul was 831.3 hours on February 15, 2024 during a routine inspection. The last recorded engine time of the #2 Engine (right), serial number 1036912 Since Major overhaul was 1334.8 hours on February 15, 2024 during a routine inspection.

The #1 propeller was manufactured by McCauley, propeller model 34F32C-515, Serial Number 190249. The last recorded propeller Service Time was 1246.9 hours on February 15, 2024. The #2 propeller was manufactured by McCauley, propeller model 34F32C-515, Serial Number 190251. The last recorded propeller Service Time was 1246.9 hours on February 15, 2024.

The last Airframe Total Time was 7790.7 hours recorded on February 15, 2024.

The AAIA received documentation of the aircraft maintenance records', Airframe Annual Sign Off, Engine Annual Sign Off, Propeller Annual Sign Off and a compliance list for all the Airworthiness Directives (AD's) from the maintenance provider.

Review of records provided revealed compliance with the manufacturers' maintenance manual/Inspection report and Civil Aviation Authority Bahamas Regulations CAR 21.172.

Aerodrome Information

The Lynden Pindling International Airport (MYNN) is the main gateway to The Bahamas and is situated on the island of New Providence. It is a Government owned Port of Entry operated by the Nassau Airport Development Company (NAD).

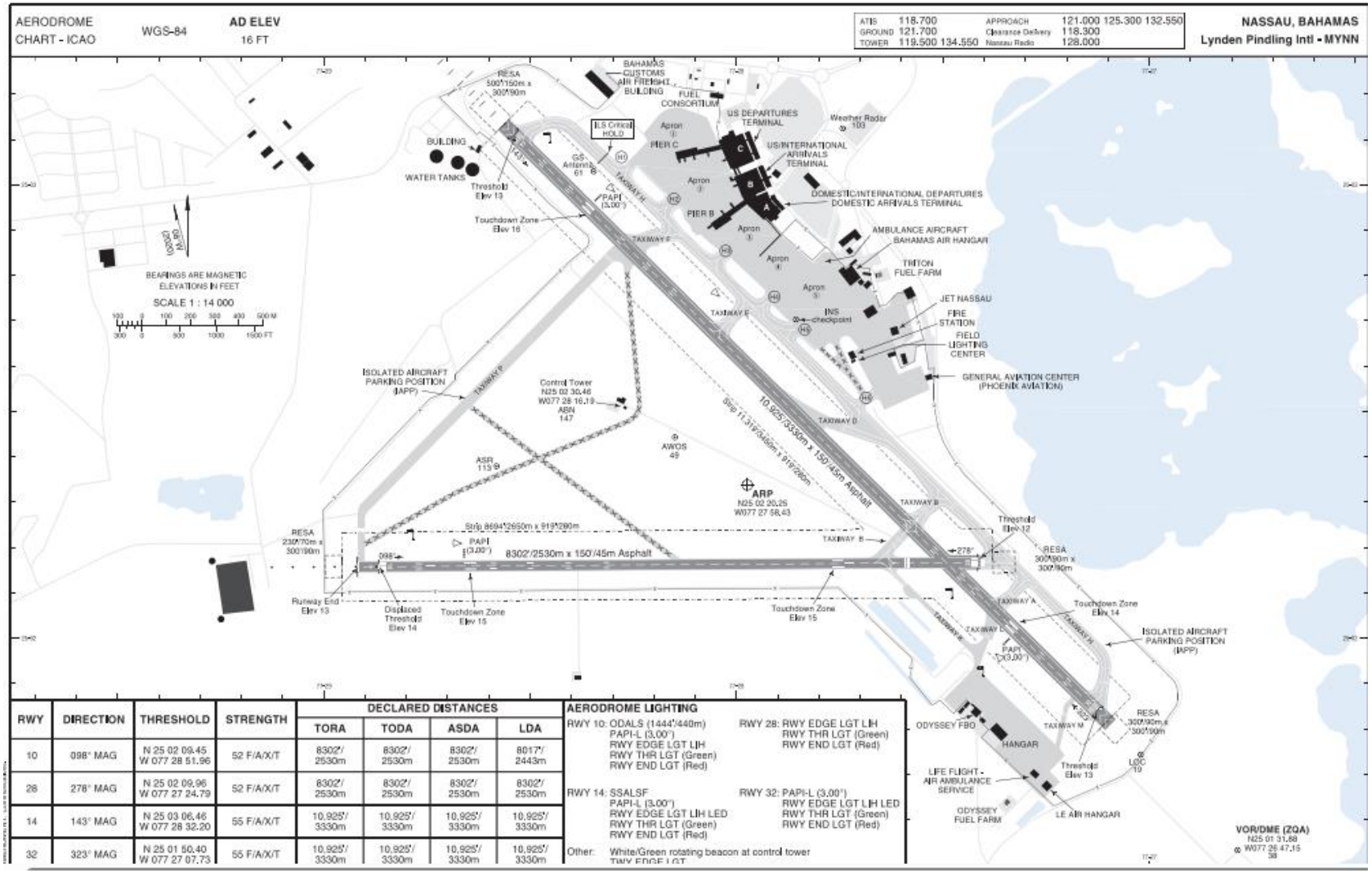
Bahamas Customs and Immigration Services, as well as Air Traffic Services and MET Weather are available 24 hours.

The aerodrome is serviced by two (2) intersecting runways 10/28 and 14/32. Below taken from Bahamas Aeronautical Information Publication (AIP) Amendment 01/2024:

RWY Designator	*TRUE BRG*	*Dimension of RWY (M)*	*Strength (PCN) and surface of RWY and SWY*	*THR coordinates RWY end coordinates THR geoid undulation*	*THR elevation and highest elevation of TDZ of precision APP RWY*
1	*2*	*3*	*4*	*5*	*6*
10	089.00°	2530 x 46	PCN 52/F/A/X/T SWY: NIL	250209.45N 0772851.96W END: NIL GUND: NIL	THR 14 FT TDZ 15 FT
28	269.00°	2530 x 46	PCN 52/F/A/X/T SWY: NIL	250209.96N 0772724.79W END: NIL GUND: NIL	THR 12 FT TDZ 15 FT
14	134.00°	3330 x 46	PCN 55/F/A/X/T SWY: NIL	250306.46N 0772832.20W END: NIL GUND: NIL	THR 13.0 FT TDZ 16.0 FT
32	314.00°	3330 x 46	PCN 55/F/A/X/T SWY: NIL	250150.40N 0772707.73W END: NIL GUND: NIL	THR 13 FT TDZ 14 FT

The aerodrome has an elevation of 16 feet and airspace is classified as Class D airspace extending upward from the surface to 1,500 feet AMSL within a 15 NM radius of the aerodrome.

Aerodrome firefighting category is Category 8 (with higher category capability).



RWY	DIRECTION	THRESHOLD	STRENGTH	DECLARED DISTANCES			
				TORA	TODA	ASDA	LDA
10	098° MAG	N 25 02 09.45 W 077 28 51.96	52 F/A/X/T	8302'/ 2530m	8302'/ 2530m	8302'/ 2530m	8017'/ 2443m
28	278° MAG	N 25 02 09.96 W 077 27 24.79	52 F/A/X/T	8302'/ 2530m	8302'/ 2530m	8302'/ 2530m	8302'/ 2530m
14	143° MAG	N 25 03 06.46 W 077 28 32.20	55 F/A/X/T	10,925'/ 3330m	10,925'/ 3330m	10,925'/ 3330m	10,925'/ 3330m
32	323° MAG	N 25 01 50.40 W 077 27 07.73	55 F/A/X/T	10,925'/ 3330m	10,925'/ 3330m	10,925'/ 3330m	10,925'/ 3330m

AERODROME LIGHTING

RWY 10: ODALS (1444'/440m)
PAPI-L (3.00°)
RWY EDGE LGT LIH
RWY THR LGT (Green)
RWY END LGT (Red)

RWY 28: RWY EDGE LGT LIH
RWY THR LGT (Green)
RWY END LGT (Red)

RWY 14: SSALSF
PAPI-L (3.00°)
RWY EDGE LGT LIH LED
RWY THR LGT (Green)
RWY END LGT (Red)

RWY 32: PAPI-L (3.00°)
RWY EDGE LGT LIH LED
RWY THR LGT (Green)
RWY END LGT (Red)

Other: White/Green rotating beacon at control tower
TWY EDGE LGT

Wreckage and Impact Information

Crew Injuries	Aircraft Damages
Minor	Destroyed by fire
Passenger Injuries	**Aircraft Fire**
None	Yes
Ground Injuries	**Aircraft Explosion**
None	Yes
Total Injuries	**Latitude/Longitude**
1 minor	

Fig.2 Drone photo of C6-JTJ from approach end of runway 32 at MYNN

The aircraft impacted the inner layer of perimeter fencing, hitting the surface and travelling for some 57 feet on a heading of approximately 123° before impacting the second outer layer of perimeter fencing. The aircraft's trajectory continued in that general direction travelling for an additional 216 feet, sliding across Coral Harbour Road before coming to rest in a swampy area.

The pilot advised that shortly after the aircraft came to rest, he observed flames from the left side of the aircraft which prompted him to make a hasty exit from the aircraft. While exiting the aircraft, the pilot observed flames on the outside, around the aircraft, and it was during his attempt to vacate the area, he received some burns to the face.

As soon as he was able to vacate the general area of the downed aircraft, the pilot observed an explosion and the aircraft continued to burn.

Fig.3: Burnt remnants of C6-JTJ

Investigation Findings

Pilot

The pilot in command of the aircraft possessed a Commercial Pilot certificate issued by the Civil Aviation Authority Bahamas (CAA-B) on 27th August 2019. Approximately 2,200 hours of flight time was accumulated by the pilot in command, with approximately 500 hours on type.

The pilot possessed a valid Class 2 medical certificate issued by the Civil Aviation Authority Bahamas (CAA-B) with an expiration date of 30th November 2024.

Most recent pilot flight check prior to accident was conducted by the CAA-B on 11th October 2023.

Weather

Meteorological Information:

Conditions at Accident site	**Condition of Light**
Visual Meteorological Conditions	Day
Observation Facility Location	**Observation Time**
Lynden Pindling Int'l Airport (MYNN)	2100 UTC
Distance from Accident Site	**Temp /Dewpoint**
N/A	27 ° C/ 19° C
Lowest Cloud Condition	**Wind**
FEW025	210/09 KTS
Altimeter Setting	**Visibility**
29.88 in. HG	>6 statute miles

Powerplant & Accessories Inspection

In the aftermath of the occurrence, an inspection of the aircraft engines and accessories was conducted. The following was noted:

LEFT ENGINE DATA

Model - Serial Number Total Time Since Major Overhaul	TSIO-520-VB-9F – S/N 811059-R 831.3 HOURS
Above engine Information taken from	DATA PLATE/MAINTENANCE RECORDS
Data plate Attached/Found?	YES/NO
Experimental Engine?	YES/NO
Engine S/N on Case:	811059
Crankshaft S/N:	L059610N
Maintenance Records Attached?	YES/NO
On-Scene Exam?	YES/NO
Last Annual Inspection by	RAM AERO FEBURARY 15TH, 2024
Last Overhaul by	Certified Engines Unlimited, Inc. Florida

LEFT ENGINE REMARKS:

As first viewed, the engine was laying on a pallet at the facilities of LeAir Hanger, in Nassau, Bahamas. The propeller hub mounting flange and propeller blades were mounted to the engine. The exterior surfaces of the crankcase exhibited soot consistent with post fire and extinguishing agent. The engine cowling was not on the engine. The engine mounting frame and mounts were found intact and attached to the aircraft firewall. The sparkplug ignition leads were connected to the sparkplugs and the sparkplugs had been removed and inspected during the engine exam. The engine was suspended from a lift and partially disassembled to facilitate the examination. The engine crankshaft was rotated through about 360 degrees of rotation without encountering any resistance. When the cylinder rocker covers were removed, the exhaust and intake valves visually appeared intact. All six cylinders and pistons were removed. After the cylinder removal, the crankshaft was rotated by hand freely through 360 degrees of rotation. No bent

valves or pushrods were observed. The camshaft lobes and cam followers were observed through the crankcase cylinder pads and no damage was noted. No damage to the crankshaft, connecting rods or other engine internal component was observed. All cam lifter bodies were removed and were firm (pumped up) when depressed by hand. The lifter body check valves were depressed to release the internal oil and the bodies all operated freely. No damage was noted to the cylinders, pistons valves or valve springs. A review of the most current engine maintenance logbook revealed the engine had accumulated 831.3 hours of total time-in-service since major overhaul.

LEFT PROPELLER	ROTOCRAFT
Manufacturer - Part Number **Serial Number**	MACCAULEY - 3AF32C515 S/N 190249
Propeller Type	METAL COMPOSITE UNKNOWN
Governor Drive Rotated	YES / NO
Gasket Screen Condition:	UNOBSTRUCTED / OBSTRUCTED
Propeller Total Hours SOH	1246.9 TTSOH

LEFT PROPELLER REMARKS:

The propeller hub mounting flange was attached to the engine, and the propeller blades and spinner. One propeller blade was turned about 180 degrees in the hub socket and curved aft about 90 degrees at about 2/3 span. That blade exhibited longitudinal bending toward the blade back in an L shape. The remaining blades was turned about 180 degrees in the hub socket and not curved or twist for the entire span. The propeller governor remained attached to the engine and no damage was noted. The propeller governor cable was broken. The cabled rod end remained attached to the governor actuator arm. The governor drive was rotated freely by hand and produced oil from the outlet port. The governor oil screen was absent of debris.

FUEL SYSTEM	INJECTION
Manufacturer	CESSNA
Model	402C

FUEL SYSTEM REMARKS:

The fuel throttle assembly was attached to the engine, all of its' connecting control ends for the throttle and mixture control cables were still attached. No damage was observed to the unit and no obstructions. The fuel injector nozzles remained attached to the engine and no damage was noted. Post fire soot was observed on the nozzles. The #1, #2, #3, #4, #5 and #6 nozzles were removed and found unobstructed. The engine driven fuel pump remained attached to the engine.

LEFT ENGINE DATA

FLOW DIVIDER	
Manufacturer	Continental
Part Number	641032-17A3
Serial Number	C13FA096R
Evidence of Fuel Found	YES/NO
Contamination Observed?	YES/NO

INJECTOR NOZZLES	
Type	Tune Nozzles
Condition	Unobstructed
Lines Secured	YES/NO

FUEL PUMP	
Manufacturer	Continental
Part Number	646210-27A1
Serial Number	Not Legible

LEFT MAGNETO	
Manufacturer	**Bendix**
Model	R6RN-201
P/N	10-163020-3
Serial Number	A232330
Impulse Coupling	YES/NO
Timing Checked	YES/NO
Drive Secure	YES/NO
Damage	NO

LEFT MAGNETO REMARKS:

The left magneto remained attached to the engine and exhibited heavy soot consistent with post fire smoke. The magneto drive coupling could be rotated by hand, when driven (rotated) with a hand held motor the magneto produced sparks consistent with its normal operation.

LEFT ENGINE DATA

STARTER

Manufacturer	Overhauled Aerotech of Louisville, Inc.
Part Number	646275-1
Serial Number	A206049

STARTER REMARKS:

The left engine starter was found attached to the engine covered in soot from post fire smoke. A functional test was conducted and the starter operated normally.

ALTERNATOR

Manufacturer	Hartzell Engine Technologies
Part Number	ALV9610
Serial Number	H-T040972

ALTERNATOR REMARKS:

The left engine alternator was found attached to the engine covered in soot from post fire smoke. The shaft of the alternator turned by hand freely. A functional test was conducted and the alternator operated normally.

LUBRICATION SYSTEM

Oil Suction Screen	Clean/ Unobstructed
Oil Pressure Screen	Clean/ Unobstructed
Oil Filter	Destroyed

LUBRICATION SYSTEM REMARKS:

Both screens were inspected and found to be unobstructed and free of foreign material.

LEFT ENGINE DATA

TURBO SYSTEM : Left	Single/Continental System
Manufacturer:	Overhauled/ Approved Turbo Components, Florida
Part Number	406610-9028
Serial Number	PLR0165
Rotate	YES/NO
Foreign Object Ingestion	YES/NO
Damage	YES/NO

TURBO SYSTEM REMARKS:

The turbocharger was disassembled. The turbine and compressor wheel were rotated freely by hand. No rotational scoring in the turbine or compressor housings were observed. Both sides were free of foreign material.

TURBO WASTE GATE

Manufacturer	Approved Turbo Components, Florida
Part Number	470908-9013
Serial Number	H-L054

TURBO WASTE GATE REMARKS:

The turbo waste gate assembly remained attached to the associated tubing and no damage was noted.

RIGHT ENGINE DATA

Model - Serial Number Total Time Since Installed (Factory New)	TSIO-520-VB-9F – S/N 1036912 1334.8 HOURS
Above engine Information taken from	DATA PLATE / MAINTENANCE RECORDS
Data plate Attached/Found?	YES / NO
Experimental Engine?	YES / NO
Engine S/N on Case:	1036912
Crankshaft S/N:	N18GA105
Maintenance Records Attached?	YES / NO
On-Scene Exam?	YES / NO
Last Annual Inspection by	RAM AERO
Last Overhaul by	CONTINENTAL MOTORS

RIGHT ENGINE REMARKS:

As first viewed, the engine was laying on a pallet at the facilities of LeAir Hanger, in Nassau, Bahamas. The propeller hub mounting flange and propeller blades were mounted to the engine. The exterior surfaces of the crankcase exhibited soot consistent with post fire and extinguishing agent. The engine cowling was not on the engine. The engine mounting frame and mounts were found intact and attached to the aircrafts' firewall. The sparkplug ignition leads were connected to the sparkplugs and the sparkplugs had been removed and inspected for the engine exam. The engine was suspended from a lift and partially disassembled to facilitate the examination. The engines' crankshaft was rotated through about 360 degrees of rotation without encountering any resistance. When the cylinder rocker covers were removed, the exhaust and intake valves visually appeared intact. All six cylinders and pistons were removed. After the cylinder removal, the crankshaft was rotated by hand freely through 360 degrees of rotation. No bent valves or pushrods were observed. The camshaft lobes and cam followers were observed through the crankcase cylinder pads, and no damage was noted. No damage to the crankshaft, connecting rods or other engine internal component was observed. All cam lifter bodies were removed and were firm (pumped up) when depressed by hand. The lifter body check valves were depressed to release the internal oil and the bodies all operated freely. No damage was noted to the cylinders, pistons valves or valve springs. A review of the most current engine maintenance logbook revealed the engine had accumulated 1334.8 hours of total time-in-service since installed.

RIGHT ENGINE DATA

PROPELLER	ROTORCRAFT
Manufacturer - Part Number **Serial Number**	MACCAULEY - 3AF32C515 S/N 190249
Propeller Type	METAL WOOD COMPOSITE UNKNOWN
Governor Drive Rotated	YES / NO
Gasket Screen Condition:	UNOBSTRUCTED / OBSTRUCTED
Propeller Total Hours SOH	1246.9 TTSOH

RIGHT PROPELLER REMARKS:

The propeller hub mounting flange was attached to the engine, and the propeller blades and spinner. One propeller blade was turned about 180 degrees in the hub socket and curved aft about 90 degrees at about 2/3 span. That blade exhibited longitudinal bending toward the blade face in an L shape. The remaining blades was turned about 180 degrees in the hub socket and not curved or twist for the entire span. The propeller governor remained attached to the engine and no damage was noted. The propeller governor cable was broken. The cabled rod end remained attached to the governor actuator arm. The governor drive was rotated freely by hand and produced oil from the outlet port. The governor oil screen was absent of debris.

FUEL SYSTEM	Injection
Manufacturer	Cessna
Model	402C
Floats	YES/NO

FUEL SYSTEM REMARKS:

The fuel throttle assembly was attached to the engine, all of its' connecting control ends for the throttle and mixture control cables were still attached. No damage was observed to the unit and no obstructions. The fuel injector nozzles remained attached to the engine and no damage was noted. Post fire soot was observed on the nozzles. The #1, #2, #3, #4, #5 and #6 nozzles were removed and found unobstructed. The engine driven fuel pump remained attached to the engine.

RIGHT ENGINE DATA

FLOW DIVIDER	
Manufacturer	Continental
Part Number	641032-17A3
Serial Number	C18IA107
Evidence of Fuel Found	YES/NO
Contamination Observed?	YES/NO
Diaphragm Condition	Normal

INJECTOR NOZZLES	
Type	Tune Nozzles
Condition	Unobstructed
Lines Secured	YES/NO

FUEL PUMP	
Manufacturer	Continental
Part Number	646210-27A1
Serial Number	B18JA169

RIGHT MAGNETO	
Manufacturer	Bendix
Model	R6RN-205
P/N	10-163060-1
Serial Number	E18KA024
Impulse Coupling	YES/NO
Timing Checked	YES/NO
Drive Secure	YES/NO
Damage	YES/NO

RIGHT MAGNETO REMARKS:

The right magneto remained attached to the engine and exhibited heavy soot consistent with post fire smoke. The magneto drive coupling could be rotated by hand. When driven (rotated) with a hand held motor, the magneto produced sparks consistent with its normal operation.

RIGHT ENGINE DATA

STARTER

Manufacturer	Continental
Part Number	646275-1
Serial Number	H-X-191801

STARTER REMARKS:

The right engine starter was found attached to the engine covered in soot from post fire smoke. A functional test was conducted and the starter operated normally.

ALTERNATOR

Manufacturer	Continental
Part Number	649304
Serial Number	018KA007

ALTERNATOR REMARKS:

The right engine alternator was found attached to the engine covered in soot from post fire smoke. The shaft of the alternator turned by hand freely. A functional test was conducted and the alternator operated normally.

LUBRICATION SYSTEM

Oil Suction Screen	Clean/Unobstructed
Oil Pressure Screen	Clean/Unobstructed
Oil Filter	Destroyed

LUBRICATION SYSTEM REMARKS:

Both screens were inspected and found to be unobstructed and free of foreign material.

RIGHT ENGINE DATA

TURBO SYSTEM

Turbo System: Right	
Manufacturer:	Continental
Part Number	632729-12
Serial Number	Not Legible
Rotate	YES/NO
Foreign Object Ingestion	YES/NO
Damage	YES/NO

TURBO SYSTEM REMARKS:

The turbocharger was disassembled. The turbine and compressor wheel were rotated freely by hand. No rotational scoring in the turbine or compressor housings was observed. Both sides were free of foreign material.

TURBO WASTE GATE

Manufacturer	Continental
Part Number	470908-9013
Serial Number	Not Legible

TURBO WASTE GATE REMARKS:

The turbo waste gate assembly remained attached to the associated tubing and no damage was noted.

Analysis

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.

In the aftermath of the occurrence, an extensive review of the maintenance records was conducted and it was determined that the aircraft was maintained in accordance with the manufacturers' specifications and existing Bahamas Regulations and approved procedures.

The aircraft had just completed an inspection and was returned to service two (2) days prior to the accident. Additionally, the aircraft was flown during the interval between return to service and the occurrence, and there was no observation of any aircraft malfunctions or system failure(s).

As the pilot in command indicated that he observed a loss power to the left engine, inspection of the power plants and associated components was conducted.

Upon completion of inspection, there was no evidence of malfunction or failure identified during post-crash inspection of aircraft engines and accessories that would suggest that the aircraft engines were unable to produce adequate power.

Of note to investigators was the pilot in command's request for a departure from the intersection of Taxiway Lima at runway 14 at MYNN after air traffic control did not grant approval for a departure from the intersection of taxiway Bravo.

The distance on runway 14 from the intersection of Taxiway Bravo to the end of the runway is approximately 3,500 feet versus a distance of approximately 1,800 feet from the intersection of Taxiway Lima.

The decision made by the pilot in command to not maximize the amount of runway available for takeoff reduced the length of runway that could be used in the case of an emergency during takeoff.

With runway 14 having a declared takeoff run available (TORA[1]) distance of approximately 10,925 feet, it would stand to reason that utilization of as much of the available runway would have increased the likelihood of either the pilot in command being able to land on the remaining runway after recognizing the problem or alternatively, attaining sufficient altitude to clear the obstacle at a height of 12 feet (fencing) at the end of the runway, based on pilot's account.

[1] TORA – takeoff run available is the length of runway that is available and suitable for the ground run of an aeroplane during takeoff.

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 Regulations and approved procedures.

2) The maintenance records indicated that the aircraft was maintained in accordance with the manufacturers' specifications and existing Bahamas Regulations and approved procedures.

3) The pilot in command possessed a Commercial Pilot certificate issued by the Civil Aviation Authority Bahamas (CAA-B) on 27th August 2019.

4) The pilot in command possessed a valid Class 2 medical certificate issued by the Civil Aviation Authority Bahamas (CAA-B) with an expiration date of 30th November 2024.

5) The aircraft was not equipped with a flight data recorder (FDR) or a cockpit voice recorder (CVR); neither was required by regulations.

6) Weather was not a factor in this occurrence.

7) There was no evidence of any defect or malfunction in the aircraft that may have contributed to the accident.

8) The pilot in command reported to have observed a loss of power to the left engine during takeoff roll on runway 14 at Lynden Pindling Int'l Airport (MYNN), Nassau, Bahamas.

9) The pilot reported to observe the aircraft stall and it was unable to clear the inner layer of perimeter fencing (height of approximately 12 feet), at a distance of approximately 820 feet from the approach end of threshold of runway 32.

10) The aircraft impacted the inner layer of perimeter fencing, hitting the surface and travelling for some 57 feet on a heading of approximately 123° before impacting the second outer layer of perimeter fencing. The aircraft's trajectory continued in that general direction travelling for an additional 216 feet, sliding across Coral Harbour Road before coming to rest in a swampy area.

11) The pilot was able to exit the aircraft, where soon after, he observed an explosion.

12) The pilot in command received minor burn injuries to the face.

13) Post-crash inspection of aircraft engines and accessories did not reveal any abnormalities or issues.

Probable Cause

The AAIA has determined the probable cause of this accident to be collision with obstacles during takeoff. The cause of this collision was undetermined. There was no evidence of malfunction or failure identified during post-crash inspection of aircraft engines and accessories that would suggest that the aircraft engines were unable to produce adequate power.

Contributing Factor:

- Decision to depart runway 14 at MYNN from intersection of Taxiway Lima.

Safety Action

On the 18th February 2024, Blessings Aviation provided documentation indicating an amendment to its operating procedures prohibiting the departure of its Cessna 402C and Beechcraft King Air 200 aircraft from the intersection of Taxiway Lima of runway 14 at the Lynden Pindling Int'l Airport (MYNN).

Safety Recommendation(s)

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