**AIRCRAFT INCIDENT REPORT**

**BN2A MK 111-2 Trislander**

**Registration – 8R-GGB**

**At Kaieteur Airstrip Region No. 8 Guyana**

**Location – 05 10 38.13N 059 29 20.49W**

21st September, 2014

**REPORT # GCAA: 2/5/1/76**

**This investigation was done by the Guyana Civil Aviation Accident Investigation Team following an aircraft incident, involving Guyana registered aircraft – BN2A MK 111-2 Trislander Registration – 8R-GGB, that gave rise to serious concerns about the attitude of the pilot involved. The objective of the investigation is to draw lessons from the occurrence and issues surrounding and leading up to it, in order to prevent recurrences.**

**This report represents the conclusions reached by the Accident Investigation Team.**

# Contents

# Abbreviations

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| CG | Center of Gravity |
| COO | Chief Operating Officer |
| CPL | Commercial Pilot Licence |
| GCAA | Guyana Civil Aviation Authority |
| KIAS | Knots Indicated Air Speed |
| RWY | Runway |
| S/N | Serial Number |
| UTC | Universal Coordinated Time (four hours ahead of Guyana Standard Time) |
| VFR | Visual Flight Rules |

## SYNOPSIS

The aircraft departed Ogle International Airport at 17:06hrs UTC and landed at Kaieteur Airstrip at 18:01hrs UTC on 21st September, 2014. The aircraft landed short and hard at Kaieteur Airstrip, resulting in minor damages to the aircraft. There were no injuries or fatalities. This incident occurred during mid-afternoon.

# 1. FACTUAL INFORMATION

## 1.1. The Aircraft

The aircraft is a BN 2A Mark111-2 Trislander that was manufactured by Britten-Norman Ltd, Bembridge, England, in 1977, S/N 1039. Registration – 8R-GGB, with Certificate of Airworthiness valid until 29th December, 2014. The aircraft was satisfactorily maintained. Review of maintenance records reveals that there were no outstanding mechanical defects that could have contributed to this incident. On inspection of the aircraft after the incident, it was noted that the throttle levers were not properly aligned at idle position.

## 1.2. The Pilot

The pilot holds a Guyana CPL #279 that was issued in April 2009, with single and multi-engine ratings and BN2 Islander aircraft type. His 1st class medical contains a limitation requiring him to wear corrective lenses. Records indicate that the pilot's flight and duty times were within acceptable limits. His total flying time is reported as 2700hrs, with 232.16hrs on type. Review of the Document Evaluation Phase for issue of the Air Operator Certificate showed that flight training, recurrent training, transition/upgrade training were all noted as "Not Applicable", but differences training was recorded as done on 29th May, 2013.

## 1.3. The Airstrip

The incident occurred at Kaieteur Airstrip. The airstrip was in satisfactory condition with a concrete surface. Location – 05 10 38.13N 059 29 20.49W: Length – 2001.29ft; Width – 72.18ft: Elevation – 1499ft; Orientation – 07/25.

Kaieteur is an uncontrolled VFR airstrip equipped only with a windsock. It is marked with the orientation marks (07/25); threshold markings, center line and edge markings.

It is a public airstrip that is managed and maintained by the Ministry of Public Works and is inspected and licensed by the Guyana Civil Aviation Authority. Its licence is valid until 31st August, 2015.

## 1.4. The Company

Golden Arrow Airways is a new company that obtained its Air Operator Certificate on 14th May, 2014. The company has two BN Mark II Trislander aircraft on its certificate. Its principals had no aviation experience prior to startup of the company. The opportunity to purchase the aircraft was seen as a good business venture.

The top level of the company's organization chart includes an Accountable Manager, a Chief Operating Officer (COO) and a Safety Manager who reports to the Accountable Manager. In reality the individual identified as the Chief Operating Officer was also the Director of Operations, the Chief Pilot and the sole pilot employed by the company. From its inception, the principals of the company depended on this individual (the COO) for advice and guidance in relation to technical issues. The COO was also the individual who finalized the Company's Operations Manual.

## 1.5. The Weather

The weather, as reported by the incident pilot and another pilot who had landed at Kaieteur 10 minutes before the incident, was clear with broken cumulus clouds between 3500ft and 4500ft with light haze. The wind was from the north east at 10-15kts. It was noted that there was light turbulence, which is a normal phenomenon in the area at the time of day.

# 2. Pre-Investigation

## 2.1. The Pilot's Statement

The pilot submitted a Mandatory Occurrence Report in which he stated that while on landing approach to RWY07 Kaieteur Airstrip, holding 82 KIAS approach speed, he experienced a very sharp and sudden downdraft of wind on very short final, which caused the aircraft to sink rapidly and strike terrain close to the threshold of the runway. After taxi and shut down, he observed that the starboard outer main wheel was deflated, starboard flap wrinkled and starboard wing wrinkled. He made contact with the company operations and the Guyana Civil Aviation Authority through the Air Traffic Services.

## 2.2. Aircraft and Airstrip Inspection

The need to inspect the aircraft to determine whether a Special Flight Permit would be issued to allow the aircraft to be flown back to base, resulted in the accident investigation team visiting the site. The investigation team arrived at Kaieteur the next day, 22nd September, 2014 at 16:30hrs UTC. Upon arrival the investigation team took the following actions:

1. Spoke to two eyewitnesses separately, who stated that they were at the airstrip at the time of the incident and observed the landing. They both stated that the aircraft seemed to be operating normally, then made a sudden dip and touched down before the runway. It then taxied normally to the usual parking area. Upon further questioning, one eyewitness said that the aircraft appeared to be flying straight and level and was approximately 5½ft above the ground before contact with the ground.
2. Carried out an airstrip inspection and found the following:
    i. The airstrip was in satisfactory condition. It was noted that there is a natural rock formation about 100ft before the runway threshold. This rock has a slight protrusion above the runway surface, but is not considered high enough to be an obstacle to normal aircraft operations.
    ii. The touchdown marks were observed and measured as follows;
        a. Left landing gear -92ft from threshold,
        b. Right landing gear – 96ft from threshold,
        c. Nose wheel immediately before the beginning of the runway.

It was noted that the imprints from the main landing gears were observed in the grass between the rock and the threshold indicating that the aircraft rolled on to the runway.

3. Along with a team of company engineers, the aircraft was inspected for damages. The following damages were noted.

    i. Wrinkles on starboard upper wing surface aft of rear spar (rear bay).
    ii. Wrinkle on starboard flap trailing edge.
    iii. Starboard under carriage web cracked.
    iv. Starboard bottom skin between rear spar and closing member wrinkled.
    v. Starboard fire wall wrinkled.
    vi. Starboard diaphragm torn.
    vii. Starboard landing gear truss lower block cracked at outer forward ends.
    viii. Starboard outer main wheel deflated.

Flight approval was given for the aircraft to be flown back to base for further inspection and repairs as necessary.

# 3. The Investigation

It was noted that there were several discrepancies between what was originally reported by the pilot and the evidence on the ground. It was therefore decided that it was necessary to enquire into the circumstances leading up to this incident. Interviews were held with the eyewitnesses, pilot in command, the company safety manager, the accountable manager/ principals and other pilots who were involved in the training and checking aspects of this company.

## 3.1. Interviews with the Pilot

### 3.1.1. First Interview

In the first interview with the pilot he was asked to explain the incident. He stated that the flight was quite normal until the aircraft was on short final, between 50ft-100ft from the threshold and about 25ft-30ft above ground level, when it encountered a sudden rapid downdraft. It was so rapid and sudden that although his hand was on the throttle there was no time to react. He stated that the aircraft just dropped, he heard a loud bang and it rolled smoothly onto the runway. The landing roll was normal, there was no loss of directional control and less braking than normal was required. He disembarked the passengers, briefed them about what had happened and explained that another aircraft would have to come to take them back to Ogle.

He then went back to the point of impact, which he was able to identify with the help of some persons who were standing at the side of the runway. He paced off the distance and measured the point of impact as 46ft from the threshold of the runway. He was informed that the actual distance was 96ft. He accepted this measurement.

This was his first flight for the day. He did not fly the previous day. He said that he does not drink or smoke or runaround late at nights. He arrived at work at 16:20hrs UTC. He collected the load sheet, did a walk around of the aircraft, visually checked the fuel and was satisfied that the aircraft was properly loaded within limits.

He stated that he first flew the aircraft in October 2013 and had since acquired 232.16hrs on the type. He had no prior experience on this aircraft, but he was on the aircraft for part of the ferry flight. After the aircraft arrived, it was operated privately to facilitate his familiarization with the aircraft.

Two pilots who are well experienced on the BN2A Islander and who are also Approved Check Airmen, were trained and checked on the BN2-Mark111 Trislander aircraft. As part of their monitor to carryout Aircraft Proficiency Checks for pilots on the aircraft, he operated as the pilot to be checked. Both of these checks were satisfactorily completed. He had also done the Demonstration Flight as part of the AOC process.

He had operated 40 flights into Kaieteur with this aircraft and had never experienced a downdraft of this magnitude, but recently he had noticed that the wind was gusting more than usual so it was necessary to be careful of the sudden changes. He was not checked into Kaieteur with the Trislander but he had been checked there on the Islander. His aiming point for touch down is 50ft-100ft beyond the threshold of the runway and he consistently aims for and touches at this point.

He said that he did not find it challenging to operate to Kaieteur with a full load due to the airstrip length. However he found it a bit uncomfortable if the CG of the aircraft was forward. As a result he had reduced the passengers from 17 to 16 and did not allow a passenger in the co-pilot seat in order to keep the CG more rearward.

He stated that the normal speed on final just prior to landing was 80KIAS and 76KIAS over the threshold, but he was holding at 82KIAS to compensate for the wind and with the intention of bleeding back to 80KIAS. Being questioned further, he said that the normal approach speed is 80KIAS and speed over the threshold should be 75KIAS. He was asked to explain how it was possible to hold an exact speed of 82KIAS when he had earlier stated that there was a variation in airspeed of between 5-7kts. His explanation was that he was holding 13 inches of manifold pressure (power) when he went down.

It was pointed out that unless there was a severe thunderstorm or some other unusual weather phenomena like a microburst, a downdraft of the magnitude described could not

have been experienced and there would have been some forewarning. He then stated that he had a difficulty with the Investigation Team telling him that what he experienced could not have happened. He insisted that the down draft did occur as he described it and noted that he alone experienced the phenomenon and he alone had to make the decisions. He was reminded that another pilot who had landed at Kaieteur 10 minutes before had reported that while he did experience turbulence on the approach it was nothing unusual that could not be handled. The incident pilot then proceeded to lecture the panel on weather.

He confirmed that he was 25ft-30ft AGL but did not consider going around because, although his hand was on the throttles, the suddenness of the downdraft prevented him from reacting and he had already put in the final stage of flaps about one mile away. He also explained that when the aircraft was on the downwind leg, just abeam the point where he would have put down the first set of flaps, he was at 2000ft AMSL. He was high above the trees but did not actually see the men who were standing near the threshold, but he was aware of them.

It was pointed out to him that if the aircraft had fallen from 25ft with the violence he described, much more damage would have been done to both the aircraft and passengers. He was told that an eye witness had stated that the aircraft was flying level at about 5½ft above ground. He was also told that calculations using a 3° slope from the beginning of the runway show that he would have been at 5ft AGL at the point of first impact, a distance of 96ft. from the threshold. He rebutted by saying that he could not possibly have been so low at that distance. In fact he opined that he would have been crazy to be that low so far out. He further said that he never drags or flies flat approaches with this aircraft because it is heavy. It was also pointed out to him that he did not see the men who were standing near the threshold of the runway because he was too low on the downwind leg.

Throughout the interview the pilot insisted that, although he was not checked into Kaieteur with this aircraft, the Islander and the Trislander were very similar and the two aircraft fly identically. He stated that there is little perceptible difference in landing flare

and in fact he found the Trislander easier to fly because it was more stable. He was asked to give the indicated landing roll figure in keeping with the flight manual if the aircraft is at 50ft AGL at Kaieteur. He stated that for the Islander, this could be within 700ft. and with the Trislander it would be about 1000ft. He was reminded that according to the manual, it was 2000ft for the Trislander and 1500ft for the Islander. Thus there is a difference in performance between the two because the stopping distances differ. This is because of inertia and weight, more power is required to achieve the same result. The pilot rebutted by saying that 'as the person with experience on the Trislander' less power is needed in the Trislander to fix an issue, for example sink rate, whether the aircraft is light or heavy it responds quicker to power applications.

### 3.1.2. The Second Interview

The second interview with the pilot focused on his relationship and functions within the company. He confirmed that he had done the final editing of the company's operations manual and had made a conscious decision to assign to himself the designation of Chief Operating Officer. He had discussed this and the connotations inherent in such a designation with the owners of the company but in hindsight he was not sure that they intended to allow him to function as he expected. Things went downhill after the AOC was obtained and he found himself relegated to the 'guy who ran the operations and flew the airplane'. Notwithstanding this, he stated that the COO is equivalent to the Director of Operations.

He noted that several issues affected his relationship with the principals and promised to provide a chain of e-mails that would show the deteriorating relationship between himself and his principals. He advised the Investigation Team that among the issues was the GCAA recommendation that flights should initially be operated with two pilots, which he had endorsed, but this was not accepted by the principals, due to the additional expenditure this would incur. It was pointed out to him that this was not a decision for the Accountable Manager, but rather was an operational safety issue and he had a responsibility to bring this to the Authority's attention.

However, in an interview with the principals, they stated that they were guided by the COO/pilot who told them that this was only a recommendation and he determined that

two pilots were not necessary. They further stated that they relied on his guidance in technical matters, as they accepted that he was knowledgeable. The principals also said that if they suggested anything, the COO was quick to point out that he was the one with the experience and expertise which they did not have.

The Accountable Manager also indicated to the Investigation Team that she had discussed with the COO the need to employ other pilots as it was recognized that when the sole pilot is unavailable the aircraft had to remain on the ground. The arrangements for this was to be finalized by the COO, but this never came to fruition as the usual excuse was that the identified pilots were either busy or unavailable. In contrast several pilots who were interviewed by the Investigation Team related that they had made several unsuccessful attempts to contact the COO/pilot with the intention of offering to assist, some at no cost to the operator. They eventually gave up in disgust. They expressed the view that the impression given, was that they were not needed by the company.

With regard to his relationship with the Safety Manager, the COO/pilot stated that he never had a relationship with this individual and the first time he saw him at the office was after this incident. When questioned about this, the Safety Manager acknowledged that he had not done any audits of the company as it was fairly new and in his opinion all should have been going well as the company had only gotten its AOC five months before the incident. He said that he was having regular discussions with the principals at their headquarters, but he had never met with the COO/pilot at the operations base.

It was also noted that the Safety Manager, who is a well experienced and qualified pilot holding an ATPL and with airline experience, had been recommended to hold the position of Chief Pilot but this was withdrawn on the COO's recommendation, leaving the one individual to function as COO, Chief Pilot and the company's sole pilot. The COO's explanation for this was that a visiting Flight Operations Inspector from CASSOS had expressed doubts as to the Safety Manager's suitability for the position. The COO stated that he did not make such a decision, because he is a very humble person.

The various incidents that he was involved in were raised. These included two previous incidents on the BN2 Islander. He also was involved in a reported 'trial and error' takeoff from Port Kaituma Airstrip and a downwind landing at Kaieteur, both in the Trislander. It was also pointed out to him that he was not recording snags, purportedly for fear of the aircraft being grounded.

With regard to the Port Kaituma incident, in which he attempted to takeoff, aborted, returned to the terminal and off loaded some passengers before attempting another takeoff. He stated that he had weighed the passengers and their weight was in keeping with the calculations based on the performance graph, but on the first takeoff run he was not feeling comfortable with the speed achieved by a certain point and decided to abort. He was challenged about the weight he had accepted and was told that the incident gave the impression that he did not know what he was about and made him look very unprofessional as a pilot.

It was put to him that he did not prepare himself properly for this flight and that was why he encountered the difficulty there. He denied this. He was also told that if he had used the manufacturers' performance graph there should have been no discomfort and further if he was flying instruments he would have had to use those numbers. It was pointed out that the manufacturers were the experts as they would have done exhaustive tests before coming up with the numbers.

It was also pointed out that unless something is wrong with the equipment or the runway the decision to abort a takeoff should not be dependent upon feeling comfortable or not. In response to this, the pilot said that he believed that some maintenance work was done on the rear engine after this flight. However review of the engine log book showed no evidence of such work after that flight, neither was there evidence of any snag being recorded in the aircraft technical log book.

He said that he had never done a flight on the Trislander with ballast only real weight, but he knew that the payload is determined by use of the performance graphs in the Flight

manual, with the more critical factor being the takeoff load. He had also never done engine failure or single or twin engine performance trials with the aircraft.

### 3.1.3 The Third Interview

The pilot requested a third meeting with the panel. He advised that he had acquired some new information that he was desirous of sharing with the panel.

The pilot stated that he appreciated that much work has gone into this investigation so far. He had gone over the events in his mind several times and there was much personal introspection on his part. He had also taken the opportunity to speak to several eyewitnesses, including the one that stated that the aircraft was about 5½ft AGL. As a result of speaking to them and also after his own reflection, he was now convinced that he had conducted the approach a little too low and as a result he was not able to deal with the wind shear when it happened. He said that upon looking back, he now accepts that this is what happened and it is now up to the Authority to determine what will happen in terms of his retraining or rehabilitation and he will complete whatever is required. He was asked to confirm that he was now agreeing with what was previously told to him by the Investigation Team, which he did by confirming that he was not 25-30ft above the ground but he was lower.

He flew abeam the Falls twice at a height of 2000ft so that passengers on both side would get to view it. On the second pass, while parallel to the runway, he checked that the runway was clear and the position of the windsock and flag. He stated that he was trained this way and he never deviated from it.

He confirmed that he did not see the men at the threshold during this time but he did see them while on final. He said that he only looked at the runway. He again repeated that he conducted the circuit at 2000ft. It was then clarified that the elevation of the runway is 1500ft, this meant that he was only 500ft AGL in the circuit instead of the required circuit altitude of 1000ft AGL. He said this is how he was trained by one of Guyana's most reputable pilots and he never deviated from this. He conceded that he had been stereotype in his operations.

It was pointed out to him that, with his current management positions in a new company, it was his responsibility to develop safe operational procedures and limitations for the company, especially as this was a new aircraft type to Guyana. He was reminded that with a new type he could not be stereotypical but needed to reassess certain procedures in order to be safe and to pass on correct information to younger pilots. He was also reminded that he needed to operate in accordance with the regulations.

Appreciation was expressed that the pilot had come back to the Team with the truth after previously attempting to mislead the Investigation Team. He insisted that this was not his intention, because what he said earlier was what he believed. He was however told that if he had listened to the Team he would have realized that what he believed could not have been possible.

He was confronted about his attitude. He was told that his responses and attitude gave the impression that the panel was not experienced enough to talk to him and could not teach him anything. However, there is a lot more that he could learn. It was pointed out to him that the experience of the panel and the calculations done, allowed them to work out what may have led to the incident. An appeal was made that he should acknowledge what happened and learn from his mistake. He was also told that his condescending attitude throughout the interview was not acceptable to the Investigation Team. In response he said that he is human and very humble and he made a big mistake that day. It was pointed out that the Team was not there to chastise him, but he needed to slow down and learn from the experience of senior pilots.

# 4. Analysis

## 4.1 The Company

With its limited knowledge and experience in aviation generally, and specifically as an approved holder of an Aircraft Operating Certificate, the management structure of this company is considered to be very weak. Management of the company comprises the Accountable Manager and Chief Operating Officer. The Safety Manager reports directly to the Accountable Manager. The position of Chief Operating Officer replaces the position of Director of Operations. The position of Chief Pilot is held by the same person holding the COO position. In reality this means that the same individual holds two approved positions and also functioned as the sole pilot of the operation.

Given the extensive list of duties and responsibilities for the COO and Chief Pilot, delineated in the company's Flight Operations Manual, it would be difficult one individual to function effectively in both of these positions and also function operationally as the sole pilot for the company. Further the attitude displayed to the Investigation Team showed that he is not a suitable person for any of the positions held.

The intent of separate post holders is to allow for greater internal safeguards within the company. With one individual holding all the technical positions within the company there was no internal oversight of flight operations in the company. This was further compounded by the failure of the company Safety Manager to effectively carry out his duties within the company.

## 4.2. The Weather

Despite the pilot's statement which initially attributed this incident to a sudden and violent down draft, it was determined that the weather was not a significant contributory factor in this incident. Further, noting that the pilot stated that he was holding exactly 82KIAS implied that there was no significant weather on the approach.

## 4.3. The Pilot

The pilot was properly certified for this flight and records from Air Traffic Control indicate that his flight times were not exceeded. He was checked into the airstrip in the BN2 Islander. While he was not required to be checked into the airstrip before operating the Trislander there, it is nevertheless good operating practice for companies to ensure that an Approved Check Airman does an initial check with pilots especially when the airstrip is marginal.

Apart from being the sole pilot within the organization he was also responsible for the daily management of the organization. Being stretched by his many responsibilities, may have contributed to his failure to adequately prepare himself for the flight and he was therefore unable to cope with the mild turbulence which is a normal weather phenomena at the airstrip at that time of day.

As previously noted, the discrepancies noted between the pilot's initial report and certain facts that were obtained from the visit to the site prompted the need for a deeper investigation. It was considered that the pilot deliberately attempted to deceive the investigators when he reported that the touch down point was 46ft from the threshold when it was in fact 96ft.

The pilot's initial statement that he was between 25-30ft AGL, at the time of the incident may have been another attempt to deceive the panel, or, if he truly believed this, it shows that his situational awareness was deficient and his depth perception is questionable. He was not aware of where the aircraft was on the approach, both in terms of height above the ground and distance from the runway threshold. He was inattentive to the readings of the instruments in the cockpit and did not make a proper assessment of the environment outside of the aircraft. He was therefore unable to make a proper judgment during the landing phase of the flight, thereby endangering the aircraft and its occupants.

Although the pilot was requested to submit his log book several times he has failed to do so. The pilot had indicated that although he was not checked into several airstrips in the Trislander, he had been checked into them in the Islander. His failure to submit his log book prevented confirmation of this.

During the course of this investigation it became apparent that the pilot was convinced that his knowledge and expertise was beyond reproof. However, when questioned, he was unable to provide accurate information, which is available in the aircraft flight manual, about the limitations of the aircraft. This uncertainty, combined with his limited experience both on the aircraft type and generally, contributed to mistakes in judgment made by him in this incident.

His inexperience was further exposed when he insisted that the Islander and the Trislander "fly identically and there is little perceptible difference in the landing flare" of the two aircraft. It was therefore considered that he was lulled into the false precept that he was flying the Islander, not the longer and heavier Trislander and therefore misjudged the approach and landing.

Much concern was expressed following the revelation that although this aircraft was quite new to the pilot, he did not consider it necessary, during training, to carry out engine failure or single or twin engine performance trials with the aircraft. He therefore had no idea how the aircraft would react in these situations and consequently would be hard pressed to take effective actions when faced with these situations. This was considered to be bordering on recklessness by the pilot and was attributed to his general inexperience in operation of this aircraft. It is also noted that the company's Flight Operations Manual contains the requirement for 'engine failure drills'. His failure to meet an essential safety requirement of the company's manual highlighted his unsuitability to hold the positions of Chief Operating Officer and Chief Pilot in the company.

It is noted that the GCAA Aircraft Proficiency Check Form mandates 'two-engine inoperative approach' and 'two-engine inoperative landing' for (3 and 4 engine aircraft) as part of "Abnormal Procedures". However these procedures were not carried out during the Pilot's APC. It was noted that items were 'waived due to current APC on the BN2 Islander'. One of the Check Airmen explained that the visiting Flight Operations Inspector had recommended that a double engine failure, even during trials, should not be attempted. It was also noted that the Approved Check Airman Manual Section 6.4.3 (d) states that "multiple, unrelated failures will not be simulated or demonstrated".

The Investigation Team considered it highly unusual that the pilot found it necessary to carry out his own investigation. His explanation was that he needed to confirm what the witnesses saw. He agreed that his investigation corroborated the information told to him by the panel.

The facts coming out of this incident and the pilot's condescending attitude throughout the investigation resulted in him being told that his behaviour showed that he was not ready for a pilot in command position. He was advised to slow down and try to get some quality time with experienced pilots to improve his flying skills. He was also advised that he needed to recognize that he has some major limitations, most importantly, his inexperience and lack of skill.

His attempts to rebut this by saying that he was aware of his limitations but was unable to get help despite several attempts, was rejected by the Investigation Team as this was at variance with what several other pilots had said to the panel. It was determined that he was so intent on being 'the man in charge', that he shunned others more experienced than himself and sought no assistance. Further several experienced pilots recognized that he was on a dangerous path, but simply left him to his own devices because of his attitude. He was told that his attitude was bad but unlike others, this panel could not allow him to continue with his unsafe behaviour, and say or do nothing about it. He had to be given guidance in order to correct his mistakes.

### 4.3. The Pilot's relationship with the Company

The owners of this company had no aviation knowledge prior to becoming involved in its ownership and operation. They stated that this pilot was their chief advisor and they relied on his advice in technical matters as they accepted that he was knowledgeable. They expected that he would give them proper guidance especially as it related to the technical aspects of meeting the requirements to obtain an Air Operator Certificate and the subsequent operations of the company. He edited the company Flight Operations Manual and had assigned to himself the title of Chief Operating Officer.

The company' Flight Operations Manual states that it is a particular responsibility of the COO to ensure that "… full recognition is given to the need for safe and efficient operations." It is also his responsibility to ensure that "qualified personnel … are available to … conduct each flight." However the COO/pilot failed to take appropriate actions to ensure that the company's operations were safe. The need for more pilots to be recruited and trained on the aircraft was disregarded. Recommendations that were made for the safety of the operations were ignored by the COO. Specifically a recommendation that was made that initially operations should be conducted with two pilots was ignored.

The COO/pilot's explanation for withdrawing the name of a more qualified and experienced pilot who had been nominated to the position of Chief Pilot was found to be unacceptable. It was noted that this decision would in effect mean that a less qualified and experienced individual was considered able to handle three posts while the other more experienced and qualified individual was not considered suitable for one position.

It was noted that the company was looking to him for advice and assistance and he gave the impression that he knows it all and can do it all, when in fact he does not have the expertise or experience to do so. He was admonished to listen to advice he was given, rethink his attitude, humble himself and acknowledge that there are persons who knew better than he and can give him useful advice and guidance.

He was urged to prepare for each flight, learn more about the weather, routes, airstrips and the aircraft in order to know how it will react in certain circumstances. He thanked the panel for the advice he received. He said that incident had shaken him to the core and he never expected to have an incident at this time in his career.

# 5. Findings

## 5.1. Cause

The aircraft was low and slow on the final landing phase of the flight and undershot the runway.

## 5.2. The Company

1. The company was new, having obtained its AOC five months prior to this incident.
2. Its owners had little aviation knowledge or experience and relied on an inexperienced person for advice.
3. One individual held positions of Chief Operating Officer, Chief Pilot and was also the sole pilot of the company. This denied the company the internal checks and balances necessary for safe and efficient operations.
4. This individual was inexperienced both on the aircraft and generally in the requirements for managing an AOC operation.
5. The Safety Manager was ineffective in his role, which required, among other things, that he carry out regular audits of the company.
6. The company failed to ensure that its pilot was properly trained in keeping with the requirements of its Flight Operations Manual.
7. Several important elements in the Company's Flight Operations Manual were ignored.

## 5.3. The COO/Pilot

1. The pilot was qualified for the flight.
2. The COO/pilot did not give due consideration to the GCAA recommendation that operations during the first ninety days must be done with two qualified crew.
3. The pilot initially attempted to deliberately deceive the investigation team by providing false information.
4. The pilot did not give an accurate account of the weather. This could be considered as an attempt to dilute his blameworthiness.
5. The pilot has failed to submit his log book, thereby preventing the investigation team from confirming his experience and certain other statements made by him.

6. The pilot misjudged the approach and landing as he believed that he did not need to take account of the differences between flying the Islander and Trislander.
7. The management responsibilities that the pilot had assigned to himself, were beyond his capacity, expertise and experience.
8. The pilot had arrogated to himself an expertise and knowledge that he did not possess. This resulted in him making poor decisions that were a detriment to the company's safe operations.
9. The pilot is not considered suitable, at this time, to hold any management position with any AOC holder.
10. The pilot failed to adhere to training requirements in the company's Flight Operations Manual

### 5.4. The GCAA

1. The absence of a resident Flight Operations Inspector resulted in the Authority's failure to recognize the limitations of the COO/advisor to the company.
2. Two Approved Check Airmen, who do APC checks on behalf of the GCAA, both considered the mandatory Abnormal Procedures Checks unnecessary.
3. The GCAA did not recognize that a mandatory item on the APC Form, to with, "Abnormal Procedures" was not carried out. This is attributable to the absence of a resident Flight Operations Inspector.
4. This was a new company with no experience in aircraft operations and was also operating an aircraft that was new to Guyana. The GCAA should have therefore been firm in making assessments of the requirements for safe operations and should have insisted that the company acquire experienced persons to manage its operations.

# 6. Recommendations

## 6.1. The Pilot

The pilot should be subjected to the following:

1. Training in weather with emphasis on wind speeds, wind shear, turbulence – how to recognize these and their effects.
2. Training in situational awareness.
3. Training in single crew resource management.
4. Training in flight planning and mass and balance.
5. Review of the Company's Flight Operations Manual and subsequent testing on same.
6. Flight training that pays particular attention to short field takeoff and landing procedures, traffic pattern procedures at non controlled aerodromes.
7. To fly as pilot under supervision (co-pilot) until attaining at least 300hrs and is considered competent on type. This must be done in a company that is an AOC Holder.
8. Before being upgraded to command status, the company must be satisfied by means of training and check, that he is ready for flight command.

## 6.2. The Company

1. The company was found wanting in several areas. However all these deficiencies are attributable to its inexperience and lack of expertise in management and operation of an AOC. The company therefore needs to reassess its management structure to ensure that persons nominated to hold approved management positions are suitably qualified and experienced for their respective positions.

## 6.3. GCAA

1. The GCAA must urgently obtain the services of a resident Flight Operations Inspector.
2. As required by the Approved Check Airman Manual, the GCAA must carefully monitor the activities of each ACA to ensure that his flight check covers the required sequences and reports are complete, accurate and meaningful.

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