MINISTRY OF TRANSPORT AND COMMUNICATIONS

CAV/ACC/2/89

ACCIDENT INVESTIGATION BRANCH

CIVIL AIRCRAFT ACCIDENT

Report on the Accident to Cessna 404
Aircraft Registration Number 5Y-MPK
which occurred on the 9th of March 1989
at Olkiobo, KENYA.

MINISTRY OF TRANSPORT AND COMMUNICATIONS

MINISTRY OF TRANSPORT AND COMMUNICATIONS
DIRECTORATE OF CIVIL AVIATION
ACCIDENT INVESTIGATION BRANCH
CIVIL AIRCRAFT ACCIDENT
REPORT NO. CAV/ACC/2/89

Aircraft Type:	-	Cessna 404 Engines: Two Continental GTS 10-520m
Registered Owner:	-	Skyway Airlines (K) Ltd., P. O. Box 93906 Mombasa
Operator:	-	Skyway Airlines (K) Ltd.,
Pilot in Command	-	Capt. George Micheal Muzenze
Passengers:	-	Four (4)
Place of Accident	-	Olkiobo 2 km along the extended centre line of runway 27.
Date and Time:	-	9th March, 1989 at 0836

ALL TIMES ON THIS REPORT ARE UTC

BRIEF CIRCUMSTANCES

Notification was received in the office of the Chief Inspector of Accidents on 9th March, 1989 at 1630 hours and the investigation started immediately.
The aircraft had left Moi International Airport for Olkiobo - Masai Mara via Malindi Airport. At 0823 the aircraft landed Olkiobo air-strip. At 0836 the aircraft started a take off roll on runway 27 for Mara Serena. Immediately after airborne, the aircraft failed to gain height and crash landed 2 km from end of runway 27. Fire broke out almost immediately.
The Pilot and the four passengers on board escaped with injuries. Both wings and the engines of the aircraft were destroyed by fire. The fuselage and the tail section was intact.

INVESTIGATION

HISTORY OF THE FLIGHT

On 9th March, 1989 the aircraft was on a Visual Flight Rules Charter flight from Moi International Airport to Olkiobo airstrip Masai Mara via Malindi airport. The aircraft had airlifted 12 passengers from Mombasa, 8 passengers disembarked for Intrepids camp (Olkiobo) leaving 4 passengers for Mara Serena at 0825.

...../(2)

On the morning of the accident, at 0836 after a pre-flight inspection, the aircraft taxied out for take off on runway 27. Engines run and pre-flight checks were carried at the end of the runway. The take off run was described by the Pilot and the witnesses as normal. After getting airborne the Pilot stated that after selecting the landing gears up, the aircraft lost some power on the left engine accompanied by change of sound of the same engine and a yaw to the left which the Pilot corrected immediately. The Pilot stated that he checked the power levers which were all inforward take-off position. He selected the flaps up to reduce the drag. He further stated that he glanced at the fuel selectors and found that "the left fuel selector was selected on the right main but not fully. He bent down to select it to the main immediately. As the left engine had started picking up power the pilot realised that he was to low for the raising ground ahead of the aircraft's path. During this phase of the take-off very little height was gained and as the speed had dropped to the red line (the minimum control speed), the pilot tried to pull up but a stall warning came on. The aircraft then was belly landed but the aircraft collided with the ground and in the process hit a stone which ripped off the nose cone. The aircraft then skidded on the soft ground for approximately 170m before both wings collided with the trees ahead of the landing path. Fire broke out almost immediately and burned off both wings and the engines completely. Both propellers were bent inwardly. The interior of the fuselage and the tail section was left intact. The underskin of the fuselage sustained substantial damage.

INJURIES TO PERSONS	Crew	Passengers	Others
Injuries	-	-	-
Fatal	1	4	-
Serious	-	-	-
Minor/None			

DAMAGE TO AIRCRAFT

The aircraft's wings exploded into flames on impact with the trees and the ground. Both wings and engines were completely burned. Both propellers were damaged and the blades bent inwardly as the fuselage reel member, lateral frames and cawling door were extensively damaged. The tail section, the interior of the passengers compartment and cabin were intact.

OTHER DAMAGES

NIL

1.5 CREW INFORMATION

Mr. George Micheal Muzenze is a Ugandan born on 9th September, 1954 at Buddiri (Uganda). He holds a Kenyan Commercial Pilot Licence No. YK-2018-CL issued on 15th January, 1988. In Group I of his licence he is rated for Cessna 172, 206, 402 and 404; Piper PA 23, 28 and 32. In Group II he is rated for Cessna 310 and DHC 6 Twin Otter. His instrument Rating expired on 1st January, 1989. His licence was renewed on 27th January, 1989 to expire on 14th January, 1990. Mr. Muzenze also holds a Radio Telephone Operator's Licence No. YK-2018-R1 issued on 15th January, 1988, and kept valid in line with the Commercial Pilot Licence.

1.5.1 EXPERIENCE

As of 14th January, 1989 when he applied for renewal of his Commercial Pilot's Licence, Mr. Muzenze had a total flying experience of Three Thousand One Hundred and Thirty Six hours (3136.2 hrs) broken down as follows:-

Pilot in Command	Day	-	2785.7 hours
Pilot in Command	Night	-	20.7 hours
Dual flying	Day	-	319.5 hours
Dual flying	Night	-	10.3 hours
	Total		3136.2 hours

1.5.2 MEDICAL

At the time of the accident the Pilot Capt. Micheal Muzenze had a valid Medical Certificate.

1.6 AIRCRAFT INFORMATION

1.6.1 AIRCRAFT

A Cessna 404 Serial Number 404-0858 and powered by two Continental GT510-520M engines. The aircraft was manufactured by Cessna Aircraft Company, Wichite, Kansas U.S.A in 1981.

1.6.2 REGISTRATION

On arrival in Kenya the aircraft was registered in the name of Skyway Airlines (K) Limited on 23rd October, 1987 and Certificat of Registration No. 1310 was issued. The aircraft has not changed ownership.

1.6.3 AIRWORTHINESS

The aircraft arrived in Kenya in possession of Federal Aviation Adminstration of U.S.A Export Certificate of Airworthiness Number E156449 dated 9th September, 1981. A Kenyan Certificate of Airworthiness No. 1431 was issued on 5th November, 1987 to expire on 4th November, 1988. It was renewed to expire on 4th November, 1989.

1.6.4 CATEGORY

Public Transport (Passengers)

1.6.5 WEIGHT/SCHEDULE

The aircraft is to be operated in accordance with the FAA Approved Flight Manual D1593-1 13PH.

1.7 METEOROLOGICAL INFORMATION

Not applicable to this accident.

1.8 AIDS TO NAVIGATION

Not relevant to this accident.

1.9 COMMUNICATIONS

The aircraft was tuned on to frequency 118.2 metres for unmanned airfields.

1.10 AERODROME INFORMATION

Runway 27 was used at the time of the accident. The length of the runway is 1400 metres by 18 metres. The surface of the runway is graded murram, this being impacted with red soil. The aircraft crash landed approximately 2 km from the end of runway 27. Olkiobo is a private Licenced Airstrip and is maintained by Tripods Hotel Management. The aerodrome was serviceable at the time of the accident.

1.11 FLIGHT RECORDER

No Flight Recorder was carried nor was one required to be carried.

1.12 THE AIRCRAFT WRECKAGE AND IMPACT INFORMATION

The wreckage was located approximately 2 km from the end of runway 27 and 200 metres left of the extended runway centre line. The first contact with the ground had been 170 metres from where the aircraft came to rest after hitting the stone and subsequently colliding with trees which were along its landing path. Fire broke out on impact as damage was evident in the nose cone section and engines. Both wings were destroyed by fire. The interior of the cabin and passengers compartment as well as flight instruments were intact. The flap handle was in the "up" position and the engine and fuel controls, in as far as it could be ascertained were in the normal position for take-off power.

There was no evidence of pre-crash damage or malfunctioning of the airframe or engine. Reports from the passengers indicate that the engines functioned satisfactorily during the take-off roll.

.13 FIRE

Both fuel tanks bursted on impact with trees causing fire which destroyed both wings and the engines. The pilot and the passengers escaped with minor burns on the hands and the face.

1.14 SURVIVAL ASPECTS

The accident was survivable except for the out break of fire. Four passengers and the pilot suffered minor burns and body injuries. The pilot and two passengers were hospitalised for a week. The other two passengers were treated and discharged. Rescuers from the lodge ran to the crash site and tried to put the fire out but it was too much for them.

2. ANALYSIS

Before the aircraft took-off, the pilot had carried out the mandatory power checks on both engines and according to his statement the engines were running normally as all engine gauges indicated tke-off power. However, investigations have revealed that just as the aircraft had lifted off from the runway, the pilot felt a loss of power on the left engine. This loss of power was accompanied by a change in sound on the same left engine and a yaw to the left which the pilot attempted to immediately correct.

It would appear from further analysis of this accident that although the pilot claims to have carried out all the mandatory checks, his fuel management technique left a lot to be desired as the left fuel selector was not fully selected on the right main tank. This caused fuel starvation to the left engine and subsequent force landing of the aircraft due to power loss on the fuel starved left engine. The aircraft thus collided with trees and high ground resulting into a fire which commenced at the wings and engines.

2. FINDINGS

1. The aircraft was properly maintained and the Certificate of Maintenance was valid including the Certificate of Airworthiness.
2. The Pilot in Command was properly licenced and experienced to carry out the flight.
3. At the time of the accident, the aircraft was operating below the prescribed weight and the centre of gravity was within the prescribed limits.

4. The pilot carried out normal pre-flight action and was satisfied that the aircraft was fit for flight.
5. The weather conditions were fine and in no respect contributed to the accident.
6. The failure of the power in the port engine was due to the incorrect selection of fuel feed from the starboard tank which resulted in fuel starvation of the left engine resulting into a power loss on the said engine.

CAUSE

The aircraft collided with trees and high ground after the pilot decided to execute a forced landing due to power loss on the left engine. The power loss on the left engine was caused by poor fuel gauge management by the pilot not fully tuning the fuel cock on the main tank.

Capt. J. M. Kegua,
INSPECTOR OF AIRCRAFT
ACCIDENT