



AIRCRAFT ACCIDENT FINAL REPORT
A 15/15P
Air Accident Investigation Bureau (AAIB)
Ministry of Transport Malaysia

Piper PA-28-181, Registration N9297
at Senai Golf Course, Senai, Johor
on 15 November 2015



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Issued On 06 June 2018

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**AIR ACCIDENT INVESTIGATION BUREAU (AAIB)
MALAYSIA**

REPORT NO.: A 15/15P

OPERATOR : PRIVATE
AIRCRAFT TYPE : PIPER
MODEL : PA-28-181
NATIONALITY OF AIRCRAFT : UNITED STATES OF AMERICA
REGISTRATION : N9297
PLACE OF OCCURRENCE : SENAI GOLF COURSE, SENAI, JOHOR
DATE AND TIME : 20 NOVEMBER 2015 AT 1240 LT

The sole objective of the investigation is the prevention of accidents and incidents. In accordance with Annex 13 to the Convention on International Civil Aviation, it is not the purpose of this investigation to apportion blame or liability.

All-time in this report is Local Time (LT) unless stated otherwise. LT is UTC +8 hours.

INTRODUCTION

The Air Accident Investigation Bureau of Malaysia

The Air Accident Investigation Bureau (AAIB) is the air accident and serious incident investigation authority in Malaysia and is responsible to the Minister of Transport. Its mission is to promote aviation safety through the conduct of independent and objective investigations into air accidents and serious incidents.

The AAIB conducts the investigation in accordance with Annex 13 to the Chicago Convention and Civil Aviation Regulations of Malaysia 2016.

It is inappropriate that AAIB reports should be used to assign fault or blame or determine liability since neither the investigation nor the reporting process has been undertaken for that purpose.

Unless otherwise indicated, recommendations in this report are addressed to the investigating or regulatory authorities of the State having responsibility for the matters with which the recommendations are concerned. It is for those authorities to decide what action is taken.

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ABBREVIATIONS

AAIB	Air Accident Investigation Bureau
AFRS	Airfield Fire and Rescue Services
ATC	Air Traffic Control
PPL	Private Pilot License
CVR	Cockpit Voice Recorder
DCA	Department of Civil Aviation
e.g.	For Example
FDR	Flight Data Recorder
Ft	Feet
ie.	That is
LT	Local Time (UTC + 8 hours)
POB	Persons on Board
UTC	Coordinated Universal Time

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SYNOPSIS

On 20 November 2015, a United States of America (USA) registered aircraft, N9297N aircraft took off from Senai International Airport, Johor, Malaysia with only 1 (one) pilot or person on board. The pilot was also the Captain of N9297N aircraft. The Captain did the general handling flight on N9297N aircraft.

The flight call sign that the Captain used for N9297N aircraft was FRAS 03. In fact, N9297N was under the maintenance care of FRAS Flying Club, Senai International Airport, Johor, Malaysia.

The Captain of N9297N aircraft took off at about 1225 LT for local training flight. The training area was to the West of Senai International Airport with fuel endurance of about 3 hours. After completed the operations at the training area, N9297N re-joined the Senai International Airport and to continue with the circuit and landing training for left-hand circuit of Runway 16.

Owing to the scheduled arrival of commercial aircraft, N9297N was directed to hold at the West of Senai International Airport at 1,000 ft.

At 1304 LT, Captain of N9297 aircraft requested to land and at the same time calling Mayday due to engine failure. Senai International Airport Air Traffic Control copied his message and also cleared Captain to proceed to Final of Runway 16. Subsequent to this message to Captain of N9297N aircraft, all other commercial aircraft were hold at various positions in allowing N9297N aircraft in allowing N9297N aircraft to take immediate priority to land. Crash alarm was pressed/activated for the Airfield Fire and Rescue Services (AFRS) to put on Standby.

At 1306 LT, Captain of N9297N aircraft informed Senai International Airport Air Traffic Control Tower that N9297N aircraft was making an emergency landing at Senai International Airport Golf Course as the Captain mentioned that he was unable to make and land at Runway 16.

N9297N aircraft was successfully forced landed on the Senai Golf Course. Captain of N9297N called Senai International Airport Air Traffic Control Tower that he was safe with minor injury.

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Although N9297N was successfully landed by the Captain, it ran out of landing space and collided with a tree finally.

N8287N was totally damaged during the final collision with the tree, ie. N9297N aircraft suffered total lost.

1.0 FACTUAL INFORMATION

1.1 History of the flight

Piper PA-28-181 aircraft bearing registration N9297N was privately owned and the aircraft was managed and maintained by the FRAS Flying Club, Senai International Airport, Johor Bahru, Johor, Malaysia.

On 20 November 2015, the Captain took the aircraft for a general handlight flight. The general handling flight was at and also near to the Senai International Airport.

At about 1225 LT, it took off from Senai International Airpot. At about 1303 LT, Captain was told to hold at the West of Senai International Airport Runway to offer airspace for two commercial aircraft that were on scheduled flights to arrive at Senai International Airport. The holding height that was offered by the Senai International Airport Air Traffic Control Tower was 1,000 ft.

At about 13:04 LT as N9297N was holding at West of Senai International Airport, Captain declared that N9297N aircraft expereined engine failure. Subsequently, Captain requested to go to Final Runway 16 to execute an emergency landing. The Senai International Airport Air Traffic Control Tower cleared the Captain to proceed as what he requested. At the same time, the other commercial aircraft that were cleared to proceed to land as per schedule were redirected to hold at various locations in allowing N9297N aircraft to land immediately on Runway 16.

Two minutes after the clearance that was given by the Senai International Airport Air Traffic Control Tower, the Captain of N9297N aircraft mentioned that he was not able to make it to Runway 16. Captain of N9297N aircraft stated that he would be making a forced landing at Senai International Airport Golf Course.

Captain of N9297N aircraft forced landed the aircraft safely at Senai International Airport Golf Course. Nevertheless, just before N9297N aircraft came to a complete stop, it hit a tree which is located very near to a golf course green.



Figure 1: N9297N hit a tree during the Forced Landing

Owing to the severe hit against the tree, N9297N aircraft was severely damaged. In fact, the damage of N9297N aircraft was considered a total lost.

Detection of Distress - Captain of N9297N aircraft detected the engine power loss while he was joining the circuit at Senai International Airport. The severe engine power loss was experienced by the Captain while he was descending from 1,500 ft to 1,000 ft with intention to joint the Right Base of Runway 18.

1.2 Injuries to persons

Injuries	Crew	Passenger	Others
Fatal	Nil	Nil	Nil
Serious	Nil	Nil	Nil
Minor	01	Nil	Nil
None	Nil	Nil	Nil

1.3 Damage to aircraft

N9297N aircraft was severely damaged during the forced landing. However, the Captain only sustained minor injury.

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Figure 2: Damaged N9297N Aircraft



Figure 3: Real View of Damaged N9297N Aircraft

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Figure 4: N9297N Aircraft Collided with A Tree



Figure 5: Engine of Damaged N9297N Aircraft

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1.4 Other damage

Nil.

1.5 Personal information

1.5.1 Captain

Age	28 years old
Gender	Male
License Type	PPL (Aeroplanes)
License Expiry	31 July 2016
Medical Examination	31 July 2016

Captain was well rested on the night before the incident day. On the same issue, he had sufficient sleep just before the day that he was doing the general handling flight on 20 November 2015.

1.6 Aircraft information

Owner	Private
Aircraft Type	Piper PA 28-181
Aircraft Serial No.	2843106
Aircraft Registration	N9297N
Year of Manufacture	1994
Operations	General Handling
Engine Type	Lycoming O-360 AM
Engine Serial No.	L-35333-36A

1.7 Meteorological information

On the day of incident, the weather was reported to be good. At the place of the incident, the weather was good with good visibility.

1.8 Aid to navigation

Nil.

1.9 Communication

The Captain did have 2-way communication with Senai International Airport Air Traffic Control Tower.

1.10 Aerodrome information

Senai International Airport was opened for all flights and the weather was good. All the airport facilities, ie. air traffic, fire and rescue, etc., were available on 15 November 2015.

1.11 Flight recorders

The aircraft was not equipped with flight data recorder. In addition, it was also not equipped with cockpit voice recorder.

1.12 Wreckage and impact Information

The Captain did the forced landing on the Senai International Airport Golf Course. The forced landing was good on the Senai International Airport Golf Course. Just before N9297N aircraft came to a stop, it hit at tree just next to a green. The collision with the tree caused the aircraft to be severely damaged.

Although the forced landing on the golf course was successful, the collision of N9297N aircraft with a tree caused the aircraft to suffer a Write-Off category, the Captain only suffered slight injury.



Figure 6: The wreckage

1.13 Medical and pathological information

The Captain did not undergo any medical examination subsequent to the incident.

1.14 Fire

Nil

1.15 Survival aspects

Not applicable

1.16 Test and research

Nil.

1.17 Organisational and management information

Nil.

1.18 Additional information

Nil.

1.19 Useful or effective investigation techniques

Nil.

2.0 ANALYSIS

All the maintenance works related to the preparation of the general handling flight or the flying training in the training area plus circuits and landings was carried out before the Captain took the N9297N aircraft.

The Captain of N9297N aircraft was the only crew or person in the aircraft. The Captain had valid license (Refer to Appendix 1) and qualified in accordance with the applicable procedures requirements.

With reference to the general handling flight on 20 November 2015 at Senai International Airport, the flight was ongoing well initially at the training area and also the joining to the West of Senai International Airport for holding at 1,000 ft.

While the Captain was doing the general handling flight under the control of Senai Air Traffic Control Tower, all aspects of the controlling and coordination were carried out or executed well. No abnormality was encountered during the whole process of controlling.

In the process of the forced landing on the Senai International Airport Golf Course, N9297N aircraft collided with a tree at the end of the forced landing, ie. during its final stop. The collision with the tree caused the severe damage to N9297N aircraft.

Owing to collision with the tree, the engine of N9297N aircraft was so severely damaged. Because of this fact, the engine could not be used properly to confirm the cause of the engine power loss.

The left over fuel in the fuel tank of N9297N aircraft was sent for detailed analysis. It was discovered that there was water contents in the fuel.

3.0 CONCLUSIONS

3.1 Findings

- 3.1.1 Captain was licensed and qualified for the general handling flight using N9297N aircraft on 20 November 2015.
- 3.1.2 Captain held a valid a medical certificate and was medically fit to operate N9297N aircraft on 20 November 2015.
- 3.1.3 Captain was provided with adequate rest and also in the conducting of the general handling flight.
- 3.1.4 Piper PA 28-181 aircraft was properly certificated, equipped and maintained in accordance with the applicable regulations.
- 3.1.5 The weather at the Senai International Airport and its vicinity was suitable for the general handling flight by the Captain of N9297N aircraft.
- 3.1.6 N9297N was managed and maintained by the N9297N aircraft engineer. Nevertheless, fuel sentiments were discovered in the fuel tank of N9297N aircraft after the forced landing.

3.2 Probable cause

The probable cause of the engine failure or engine power loss while holding to the West of Senai International Airport at 1,000 ft was owing to presence of fuel sentiments in the fuel tank.

4.0 SAFETY RECOMMENDATIONS

- 4.1 The engineering practices and maintenance procedures of the aircraft are to be conducted correctly in continuous manner especially during daily inspection of the aircraft.
- 4.2 Water contamination presence in the fuel tank or fuel system was due to absent of proper fuel check during the preflight by the engineering personnel or Captain prior to taking the aircraft for flying. Future pre flight check has to include fuel sample check for contamination.

INVESTIGATOR-IN-CHARGE

Air Accident Investigation Bureau

Ministry of Transport