



**KOMITE NASIONAL KESELAMATAN TRANSPORTASI  
REPUBLIC OF INDONESIA**

# **PRELIMINARY**

**KNKT.19.02.02.04**

**Aircraft Serious Incident Investigation Report**

**PT. Spirit Avia Sentosa  
Cessna 208B Caravan; PK-FSS  
Tanah Merah Airport, Papua  
Republic of Indonesia  
9 February 2019**

**2020**

This Preliminary Report is published by the Komite Nasional Keselamatan Transportasi (KNKT), Transportation Building, 3<sup>rd</sup> Floor, Jalan Medan Merdeka Timur No. 5 Jakarta 10110, Indonesia.

The report is based upon the initial investigation carried out by the KNKT in accordance with Annex 13 to the Convention on International Civil Aviation Organization, the Indonesian Aviation Act (UU No. 1/2009) and Government Regulation (PP No. 62/2013).

The preliminary report consists of factual information collected until the preliminary report published. This report will not include analysis and conclusion.

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However, the KNKT fully recognizes that the implementation of recommendations arising from its investigations will in some cases incur a cost to the industry.

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Jakarta, 28 January 2020

**KOMITE NASIONAL  
KESELAMATAN TRANSPORTASI  
CHAIRMAN**



**SOERJANTO TJAHOJONO**

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## ABBREVIATIONS AND DEFINITIONS

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AOC	:	Aircraft Operator Certificate
Broken	:	Broken (BKN) is condition when the amount of cloud covers 4/8 to 7/8 area of the sky.
C of A	:	Certificate of Airworthiness
C of R	:	Certificate of Registration
CASR	:	Civil Aviation Safety Regulation
CPL	:	Commercial Pilot License
ITT	:	Inlet Turbine Temperature
KNKT	:	<i>Komite Nasional Keselamatan Transportasi</i>
lbs	:	Pounds
LT	:	Local Time
Ng	:	Gas Generator Speed
Nm	:	Nautical Mile
MORE	:	Maintenance on Reliable Engines
PF	:	Pilot Flying
PIC	:	Pilot in Command
PM	:	Pilot Monitoring
SIC	:	Second in Command
STC	:	Supplemental Type Certificate
UTC	:	Universal Time Coordinated

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## SYNOPSIS

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On 9 February 2019, a Cessna C208B Caravan aircraft registered PK-FSS was being operated by PT. Spirit Avia Sentosa (FlyingSAS) for scheduled passenger flight from Tanah Merah Airport (WAKT) with intended destination of Oksibil Airport (WAJO).

Prior to the departure, there was no report or record of aircraft system malfunction. The aircraft departed runway 07 Tanah Merah Airport at 2209 UTC (0709 LT). On board the aircraft was four passengers and two pilots while both pilots were qualified as PIC on Cessna 208 aircraft.

During climb passing 6,500 feet, about 20 Nm from Tanah Merah airport, both pilots felt that aircraft suddenly accelerated and the PM checked the engine parameters. The pilot noticed indications of torque was approximately 2,400 psi, the Inlet Turbine Temperature (ITT) was 920°C, the Gas Generator Speed (Ng) was 109%, and the fuel flow was between 550 and 600 lbs/hour. The PIC attempted to reduce the engine power by repositioned the power lever to idle. The PIC found that the lever was freely move but the engine power was not reduced.

At 2219 UTC, the pilot decided to return to Tanah Merah and informed Tanah Merah Tower controller. The tower controller approved for the pilot to return to Tanah Merah and advised to landing on runway 25 with weather information that the wind was calm, visibility 7 kilometers cloud broken at 2,000 feet.

At 2221 UTC, the pilot reported the position was 11 Nm to Tanah Merah and intended to make landing without engine power. The pilot conducted emergency procedure of engine failure in flight. The aircraft altitude was maintained at 7,000 feet until the aircraft position about 6 Nm to Tanah Merah. Thereafter, the pilot shutdown the engine then continued approach and landed safely at 2228 UTC.

The aircraft stopped on the taxiway Alpha then the passenger disembarked. No one injured as result of the occurrence and the aircraft was no damage.

The investigation is continuing and KNKT plans to complete the investigation within 12 months since the day of the occurrence. Should any further relevant safety issues emerge during the course of the investigation, KNKT will immediately bring the issues to the attention of the relevant parties and publish as required.

At the time of issuing this preliminary report, the KNKT had not been informed safety action taken by the FlyingSAS resulting from this occurrence.

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# 1 FACTUAL INFORMATION

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## 1.1 History of the Flight

On 9 February 2019, a Cessna C208B Caravan aircraft registered PK-FSS was being operated by PT. Spirit Avia Sentosa (FlyingSAS) for scheduled passenger flight from Tanah Merah Airport (WAKT) with intended destination of Oksibil Airport (WAJO).

Prior to the departure, there was no report or record of aircraft system malfunction.

The aircraft departed runway 07 Tanah Merah Airport at 2209 UTC (0709 LT<sup>1</sup>). On board the aircraft was four passengers and two pilots while both pilots were qualified as PIC on Cessna 208 aircraft. Pilot in Command (PIC) acted as Pilot Flying (PF) and the Second in Command (SIC) acted as Pilot Monitoring (PM).

During climb passing 6,500 feet, about 20 Nm from Tanah Merah airport, both pilots felt that aircraft suddenly accelerated and the PM checked the engine parameters. The pilot noticed indications of torque was approximately 2,400 psi, the Inlet Turbine Temperature (ITT) was 920°C, the Gas Generator Speed (Ng) was 109%, and the fuel flow was between 550 and 600 lbs/hour. The PIC attempted to reduce the engine power by repositioned the power lever to idle. The PIC found that the lever was freely move but the engine power was not reduced.

At 2219 UTC, the pilot decided to return to Tanah Merah and informed Tanah Merah Tower controller. The tower controller approved for the pilot to return to Tanah Merah and advised to landing on runway 25 with weather information that the wind was calm, visibility 7 kilometers cloud broken<sup>2</sup> at 2,000 feet.

At 2221 UTC, the pilot reported the position was 11 Nm to Tanah Merah and intended to make landing without engine power. The pilot conducted emergency procedure of engine failure in flight. The aircraft altitude was maintained at 7,000 feet until the aircraft position about 6 Nm to Tanah Merah. Thereafter, the pilot shutdown the engine then continued approach and landed safely at 2228 UTC.

The aircraft stopped on the taxiway Alpha then the passenger disembarked. No one injured as result of the occurrence and the aircraft was no damage.

## 1.2 Personnel Information

### 1.2.1 Pilot in Command

Gender	: Male
Age	: 28 years
Nationality	: Indonesia
Marital status	: Married
Date of joining company	: 7 March 2017

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<sup>1</sup> The 24-hours clock in Local Time (LT) is used in this report to describe the time as specific events occurred. Local time is Universal Time Coordinated (UTC) +9 hours.

<sup>2</sup> Broken (BKN) is condition when the amount of cloud covers 4/8 to 7/8 area of the sky.

License : CPL (Commercial Pilot License)  
 Date of issue : 18 December 2013  
 Aircraft type rating : Single Engine Land  
 Instrument rating validity : Valid until 31 May 2019  
 Medical certificate : First Class  
 Last of medical : 8 November 2018  
 Validity : Valid until 8 May 2019  
 Medical limitation : None  
 Last line check : 18 May 2017  
 Last proficiency check : 14 May 2018

**Flying experience**

Total hours : 2347 hours  
 Total on type : 1036 hours 12 minutes  
 Last 90 days : 197 hours 46 minutes  
 Last 60 days : 54 hours 46 minutes  
 Last 24 hours : 2 hours 36 minutes  
 This flight : 19 minutes

**1.2.2 Second in Command**

Gender : Male  
 Age : 26 years  
 Nationality : Indonesia  
 Marital status : Single  
 Date of joining company : 1 May 2017  
 License : CPL  
 Date of issue : 18 December 2013  
 Aircraft type rating : Single Engine Land  
 Instrument rating validity : Valid until 31 December 2019  
 Medical certificate : First Class  
 Last of medical : 10 September 2018  
 Validity : 10 March 2019  
 Medical limitation : None

Last line check : 11 December 2018  
Last proficiency check : 11 December 2018  
**Flying experience**  
Total hours : 1618 hours 17 minutes  
Total on type : 645 hours 28 minutes  
Last 90 days : 219 hours  
Last 60 days : 117 hours 53 minutes  
Last 24 hours : 2 hours 36 minutes  
This flight : 19 minutes

### **1.3 Aircraft Information**

#### **1.3.1 General**

Registration Mark : PK-FSS  
Manufacturer : Cessna Aircraft Company  
Country of Manufacturer : United States of America  
Type/ Model : Cessna 208B  
Serial Number : 208B1240  
Year of Manufacture : 2007  
Certificate of Airworthiness  
    Issued : 5 November 2018  
    Validity : Valid until 4 September 2019  
    Category : Normal  
    Limitations : None  
Certificate of Registration  
    Registration Number : 3995  
    Issued : 5 September 2017  
    Validity : 4 September 2020  
Time Since New : 11,152:35 Hours  
Cycles Since New : 13,740 Cycles  
Last Major Check : 800 hours Inspection  
Last Minor Check : 100 hours Inspection



### 1.3.2 Engines

Manufacturer : Pratt & Whitney-Canada  
Country of Manufacturer : United States of America  
Type/model : PT6A-114A  
Serial Number Engine : PCE-PC 1371

- Type/ Model : PT6A-114A
- Installed : 18 October 2018
- TSN : 10,759 hours
- CSN : 13,124 cycles

### 1.3.3 Fuel Control Unit

Manufacturer : Honeywell  
Country of Manufacturer : United States of America  
Type/model : 3244897-3  
Serial Number : B10337

- Installed at engine TSN : 9,297 hours 18 minutes
- TSN : Unknown
- TSO : 0
- LLP : 4,100 hours (2873 hours and 53 minutes remaining)
- Due at engine TSN : 13,397:18 hours

### 1.3.4 Fuel Pump

Manufacturer : Argo Tech  
Country of Manufacturer : United States of America  
Part Number : 3034792  
Serial Number : 000961

- Installed at engine TSN : 10,129 hours 53 minutes
- TSN : Unknown
- TSO : 0
- LLP : 4,100 hours (3,706 hours and 28 minutes remaining)
- Due at engine TSN : 14,229 hours 53 minutes

### 1.3.5 Propeller Governor

Manufacturer : Argo Tech  
Country of Manufacturer : United States of America

Part Number	:	8210-002-01
Serial Number	:	15140103
<ul style="list-style-type: none"> <li>▪ Installed at engine TSN</li> <li>▪ TSN</li> <li>▪ TSO</li> <li>▪ LLP</li> </ul>	:	10,129 hours 53 minutes Unknown 0 4,100 hours (3706 hours and 28 minutes remaining)
<ul style="list-style-type: none"> <li>▪ Due at engine TSN</li> </ul>	:	14,229:53 hours

## 1.4 Aerodrome Information

Airport Name	:	Tanah Merah
Airport Identification	:	WAKT
Airport Operator	:	Directorate General of Civil Aviation
Coordinate	:	06°05'46" S; 140°18'00" E
Elevation	:	86.40 feet
Runway Direction	:	07-25
Runway Length	:	1,056 meters
Runway Width	:	23 meters
Surface	:	asphalt

## 1.5 Flight Recorders

The aircraft was not fitted with a flight data recorder or cockpit voice recorder. Neither recorder was required by current Indonesian aviation regulations.

## 1.6 Tests and Research

The Fuel Control Unit, Fuel Pump and Propeller Governor were removed from the engine and sent to Pratt and Whitney Canada facility for failure examination. The examination was delegated by KNKT to TSB Canada and will be conducted under supervision of TSB Investigator and experts from Pratt and Whitney Canada.

The detail of the examination report will be included in the final report.

## 1.7 Organizational and Management Information

### 1.7.1 Aircraft Operator

Aircraft Owner	:	Pacific Air Holdings, dba Delta Wing Equipment, LLC
Address	:	2202 Airport Drive Shawnee, Oklahoma, 74804, United States of America
Aircraft Operator	:	PT. Spirit Avia Sentosa (FlyingSAS)
Address	:	Jalan Protokol Halim Perdanakusuma No. 8, Jakarta Timur, 13620, Republic of Indonesia

PT. Spirit Avia Sentosa (FlyingSAS) had valid Aircraft Operator Certificate (AOC) number 135-058 which authorized to conduct air transportation carrying passengers and cargo in non-scheduled operation within and outside Indonesia for aircraft operations under Civil Aviation Safety Regulation (CASR) Part 135.

The Flying SAS operated four Cessna 208B aircraft including the accident aircraft to serve on Papua area.

The aircraft operator maintained the aircraft using Maintenance on Reliable Engines (MORE) system approved under supplemental type certificate (STC) 2183.

## **1.8 Additional Information**

The investigation is continuing and KNKT plans to complete the investigation within 12 months since the day of the occurrence. Should any further relevant safety issues emerge during the course of the investigation, KNKT will immediately bring the issues to the attention of the relevant parties and publish as required.

## **1.9 Useful or Effective Investigation Techniques**

The investigation was conducted in accordance with the KNKT approved policies and procedures, and in accordance with the standards and recommended practices of Annex 13 to the Chicago Convention.

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## 2 FINDINGS<sup>3</sup>

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According to factual information during the investigation, the KNKT identified initial findings as follows:

1. Both pilots were qualified as PIC on Cessna 208 aircraft and held valid licenses and medical certificates.
2. The aircraft had valid Certificate of Airworthiness (C of A) and Certificate of Registration (C of R).
3. The aircraft operator had valid Aircraft Operator Certificate (AOC) number 135-058 which authorized to conduct air transportation carrying passengers and cargo in non-scheduled operation within and outside Indonesia for aircraft operations under Civil Aviation Safety Regulation (CASR) Part 135.
4. The Flying SAS operated four Cessna 208B aircraft including the accident aircraft to serve on Papua area.
5. The aircraft operator maintained the aircraft using Maintenance on Reliable Engines (MORE) system approved under supplemental type certificate (STC) 2183.
6. Prior to the departure, there was no report or record of aircraft system malfunction.
7. During climb passing 6,500 feet, about 20 Nm from Tanah Merah airport, both pilots felt that aircraft suddenly accelerated.
8. The PIC attempted to reduce the engine power by repositioned the power lever to idle. The PIC found that the lever was freely move but the engine power was uncontrollable .
9. The pilot decided to return to Tanah Merah and planned to land without engine power.
10. When the aircraft position was about 6 Nm to Tanah Merah, the aircraft altitude was maintained at 7,000 feet, the pilot shutdown the engine then continued approach and landed safely.
11. No one injured as result of the occurrence and the aircraft was no further damage.

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<sup>3</sup> Findings are statements of all significant conditions, events or circumstances in the accident sequence. The findings are significant steps in the accident sequence, but they are not always causal, or indicate deficiencies. Some findings point out the conditions that pre-existed the accident sequence, but they are usually essential to the understanding of the occurrence, usually in chronological order.

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### **3 SAFETY ACTION**

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At the time of issuing this Preliminary Report, the KNKT had not been informed of safety actions resulting from this occurrence.

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## **4 SAFETY RECOMMENDATIONS**

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At the time of issuing this Preliminary Report, the KNKT not issued safety recommendation resulting from this occurrence.

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