



**KOMITE NASIONAL KESELAMATAN TRANSPORTASI
REPUBLIC OF INDONESIA**

PRELIMINARY

KNKT.23.03.04.04

Aircraft Serious Incident Investigation Report

PT Garuda Indonesia

Boeing 737-800; PK-GMC

Soekarno-Hatta International Airport, Tangerang

Republic of Indonesia

30 March 2023

2023

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

The report is based upon the investigation carried out by the KNKT in accordance with Annex 13 to the Convention on International Civil Aviation, 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 was published. This report will not include analysis and conclusion.

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Jakarta, 8 June 2023
**KOMITE NASIONAL
KESELAMATAN TRANSPORTASI
CHAIRMAN**



SOERJANTO TJAHHJONO

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ABBREVIATIONS AND DEFINITIONS

AOC	:	Air Operator Certificate
ATPL	:	Airline Transport Pilot License
ATC	:	Air Traffic Controller
ATS	:	Air Traffic Services
CASR	:	Civil Aviation Safety Regulation
C of A	:	Certificate of Airworthiness
C of R	:	Certificate of Registration
CPL	:	Commercial Pilot License
CVR	:	Cockpit Voice Recorder
EGPWS	:	Enhanced Ground Proximity Warning System
FA	:	Flight Attendant
FAC	:	Flight Attendant Certificate
Km	:	Kilometer
KNKT	:	<i>Komite Nasional Keselamatan Transportasi</i>
LT	:	Local Time
MSN	:	Manufacturer's Serial Number
NM	:	Nautical Mile
OM-A	:	Operations Manual Part-A
PF	:	Pilot Flying
PIC	:	Pilot in Command
PM	:	Pilot Monitoring
SIC	:	Second in Command
SSCVR	:	Solid State Cockpit Voice Recorder
SSFDR	:	Solid State Flight Data Recorder
USA	:	United States of America
UTC	:	Universal Time Coordinate

SYNOPSIS

On 30 March 2023, a Boeing B737-800 aircraft, registered PK-GMC, was being operated by PT Garuda Indonesia on a scheduled passenger flight from Suvarnabhumi Airport (BKK/VTBS), Bangkok, Thailand, to Soekarno-Hatta International Airport (CGK/WIII), Jakarta, Indonesia, with flight number GIA867. On board the aircraft were two pilots, six flight attendants, and 76 passengers. The Pilot in Command (PIC) acted as Pilot Monitoring (PM), and the Second in Command (SIC) acted as Pilot Flying (PF). The flight was uneventful until the aircraft approached Jakarta.

The aircraft was instructed to descend at about 20 NM before reaching the top of the descent as planned. During approach, the aircraft was vectored by the Air Traffic Controller (ATC) to maintain separation with the other aircraft due to traffic.

On final approach at an altitude of about 700 feet, the autopilot and autothrottle disengaged, and the pilot started manual flying. At an altitude of about 300 feet, the PIC noticed that the N1 engine was 53%, then increased the throttle lever to reach about 57% N1 and informed the SIC. While passing the runway threshold, the PIC noticed that the Enhanced Ground Proximity Warning System (EGPWS) altitude callout sounded faster than normal and the PIC assisted in holding the control column during the flare-out. During touchdown, the aircraft was experiencing bouncing, and on the second touchdown, the pilot felt a fairly harder touchdown than the first touchdown. The pilot managed to land the aircraft safely. Thereafter, the pilot continued to taxi to the apron.

The aircraft was slightly damaged. There were scratches on the lower surface of the aft fuselage skin (section 46 – 47, station 847 to 927). Scratches were also found on the runway surface marking the contacted area.

The investigation is continuing, 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 FACTUAL INFORMATION

1.1 History of the Flight

On 30 March 2023, a Boeing B737-800 aircraft, registered PK-GMC, was being operated by PT Garuda Indonesia on a scheduled passenger flight from Suvarnabhumi Airport (BKK/VTBS), Bangkok¹, Thailand, to Soekarno-Hatta International Airport (CGK/WIII), Jakarta², Indonesia, with flight number GIA867.

The flight was a return flight from Bangkok, which was the second flight of the day for both pilots. For the first flight of the day, medical examination of body temperature and blood pressure test of both pilots was conducted with the result of no health problem. Prior to departure, there was no report of aircraft technical system abnormalities. While predeparture briefing was conducted, the Pilot in Command (PIC) added some information about the local procedures of Bangkok to the Second in Command (SIC) because this flight was the SIC's first time flying from Bangkok.

At 0729 UTC³ (1429 LT), in daylight conditions, the aircraft departed Bangkok and cruised at an altitude of 35,000 feet. On board of the aircraft were two pilots, six flight attendants, and 76 passengers. The PIC acted as Pilot Monitoring (PM), and the SIC acted as Pilot Flying (PF). The flight was uneventful until the aircraft approached Jakarta.

The aircraft was instructed to descend while about 20 NM before reaching the planned top of the descent. During approach, the aircraft was vectored by the Air Traffic Controller (ATC) to maintain separation with the other aircraft.

At 1049 UTC, the pilot reported establishing localizer runway 25R while descending passed the altitude of about 2,500 feet. At 1051 UTC, the aircraft received landing clearance from ATC.

On final approach at an altitude of about 700 feet, the autopilot and autothrottle disengaged, and the pilot started manual flying. When the altitude was about 300 feet, the PIC noticed that the N1 engine was about 53%, then increased the throttle lever to about 57% N1 and informed the SIC. While passing the runway threshold, the PIC noticed that the Enhanced Ground Proximity Warning System (EGPWS) altitude callout interval was quicker than normal and the PIC assisted in holding the control column during the flare-out. The aircraft was experiencing bouncing during touchdown. On the second touchdown, the pilot felt a fairly harder touchdown than the first touchdown. After landing, the pilot continued to taxi to the apron. After the aircraft stopped at the parking stand, the pilot advised the engineer to perform a walkaround check and found the lower surface on the aft fuselage skin and tailskid damper were scratched and deflected respectively.

1.2 Injuries to Persons

There were no injuries to persons as a result of this occurrence.

¹ Suvarnabhumi Airport (VTBS), Bangkok, will be named as Bangkok for the purpose of this report.

² Soekarno-Hatta International Airport (WIII), Jakarta, will be named as Jakarta for the purpose of this report.

³ The 24-hour clock in Universal Time Coordinated (UTC) is used in this report to describe the local time as specific events occurred. Local time is UTC+7 hours.

1.3 Damage to Aircraft

The aircraft was slightly damaged as illustrated by Figure 1 to Figure 3. There were scratches on lower surface of the aft fuselage skin (section 46 – 47, from station 847 to 927).



Figure 1. Scratches on lower surface of the aft fuselage skin (view looking forward)

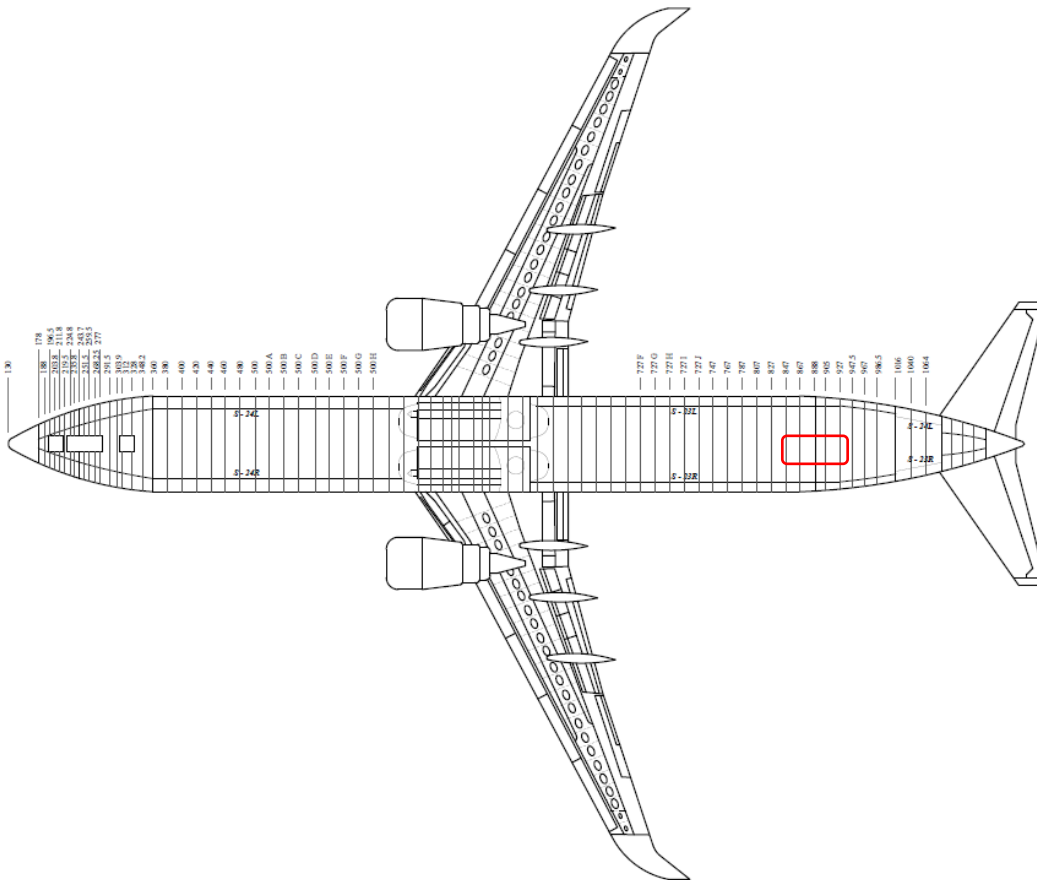


Figure 2. Damage location on lower surface drawing global view (red-highlighted)



Figure 3. Deflected tailskid damper

1.4 Other Damage

There was no other damage to property and/or the environment.

1.5 Personnel Information

1.5.1 Pilot in Command (PIC)

Gender	: Male
Age	: 34 year
Nationality	: Indonesia
Date of joining company	: 12 December 2010
License	: ATPL
Date of issue	: 13 May 2019
Aircraft type rating	: Boeing 737
Instrument rating validity	: 30 April 2023
Medical certificate	: First Class
Last of medical	: 16 February 2023
Validity	: 18 August 2023
Medical limitation	: None
Last line check	: 3 December 2022

Last proficiency check : 30 October 2022

Flying experience

Total hours : 7,398 hours 45 minutes

Total on type : 1,503 hours 36 minutes

Last 90 days : 86 hours 57 minutes

Last 30 days : 27 hours 37 minutes

Last 7 days : 11 hours 58 minutes

Last 24 hours : 7 hours 6 minutes

This flight : 3 hours 31 minutes

1.5.2 Second in Command (SIC)

Gender : Female

Age : 26 years

Nationality : Indonesia

Date of joining company : 5 August 2019

License : CPL

Date of issue : 10 April 2018

Aircraft type rating : Boeing 737

Instrument rating validity : 31 March 2024

Medical certificate : First Class

Last of medical : 3 November 2022

Validity : 27 May 2023

Medical limitation : Holder shall wear corrective lenses

Last line check : 23 July 2022

Last proficiency check : 17 March 2023

Flying experience

Total hours : 534 hours 28 minutes

Total on type : 534 hours 28 minutes

Last 90 days : 69 hours 43 minutes

Last 30 days : 20 hours 29 minutes

Last 7 days : 9 hours 54 minutes

Last 24 hours : 7 hours 6 minutes

This flight : 3 hours 31 minutes

1.5.3 Flight Attendant(s)

All Flight Attendants (FAs) were Indonesian who held valid Flight Attendant Certificates (FAC) and rated on Boeing 737. The FAs also held valid Second-Class medical certificates.

1.6 Aircraft Information

1.6.1 General

Registration Mark	: PK-GMC
Manufacturer	: Boeing
Country of Manufacturer	: United States of America (USA)
Type/Model	: 737-800
Serial Number	: 30155
Year of Manufacture	: 2009

Certificate of Airworthiness

Date of issue	: 11 November 2022
Validity	: 10 November 2023
Category	: Transport
Limitation	: None

Certificate of Registration

Number	: 2673
Date of issue	: 10 November 2022
Validity	: 9 November 2025
Time Since New	: 32,246 hours
Cycles Since New	: 20,328 cycles
Last Major Check	: C-check (3 November 2022 at 31,256 hours / 19,708 cycles)
Last Minor Check	: A-check (27 February 2023 at 32,007 hours / 20,189 cycles)

1.6.2 Engines

Manufacturer	: CFM International
Type/Model	: CFM56-7B26
Serial Number-1 engine	: 875160
Time Since New	: 58,156 hours
Cycle Since New	: 29,369 cycles
Serial Number-2 engine	: 876434

Time Since New : 16,797 hours
Cycle Since New : 20.979 cycles

1.7 Meteorological Information

The weather report for Soekarno-Hatta International Airport, issued 30 March 2023, indicated that, at the time of occurrence, the weather was covered with a few scattered convective clouds with visibility of 10 km, and the wind speed was five knots coming from 330° direction.

1.8 Aids to Navigation

Ground-based navigation aids/onboard navigation aids/aerodrome visual ground aids and their serviceability were not a factor in this occurrence.

1.9 Communications

All communications between Air Traffic Services (ATS) and the crew were recorded by ground based automatic voice recording equipment and Cockpit Voice Recorder (CVR) for the duration of the flight. The quality of the aircraft's recorded transmissions was good.

1.10 Aerodrome Information

Airport Name : Soekarno-Hatta International Airport
Airport Identification : WIII
Airport Operator : PT Angkasa Pura II
Coordinate : 06°06'32.27" S 106°40'08.62" E
Elevation : 34 ft
Runway Direction : 25R (247°)
Runway Length : 3,600 m
Runway Width : 60 m
Surface : Asphalt

1.11 Flight Recorders

The aircraft was fitted with Flight Data Recorder (FDR) and Cockpit Voice Recorder (CVR). The FDR was manufactured by Honeywell with part number 940-4700-042 and serial number SSFDR-08452. The CVR was manufactured by Honeywell with part number 980-6022-001 and serial number CVR120-1343.

Both recorders were transported to the KNKT facility for data processing. Details of the flight recorders data will be included in the final report.

1.12 Wreckage and Impact Information

A 13 meters long scratch mark with yellowish green and white-blue paint was found on the right side of the runway centerline.

The scratch mark was found about 500 meters from the threshold of Runway 25R approximately one meter from the runway centerline, as shown in Figure 4.



Figure 4. Thirteen meters long scratch mark on the runway

1.13 Medical and Pathological Information

After the occurrence flight, the pilots undergone drugs test consisted of cocaine, methamphetamine, amphetamine, opiate, cannabis/marijuana, and benzodiazepine. The result of the drug test was negative.

1.14 Fire

There was no evidence of in-flight or post-impact fire.

1.15 Tests and Research

Should any tests or research be carried out due to the occurrence, the results will be included in the final report.

1.16 Organizational and Management Information

The aircraft was being operated by PT Garuda Indonesia which held valid operator certificate with AOC number of 121-001. PT Garuda Indonesia has 37 fleets of the Boeing B737-800 series.

1.17 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.

1.18 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.

2 FINDINGS⁴

The 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.

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

1. The aircraft had a valid Certificate of Airworthiness (C of A) and Certificate of Registration (C of R).
2. Both pilots held valid licenses and medical certificates.
3. Prior to the event, there was no record or report of aircraft system malfunction.
4. The Pilot in Command (PIC) acted as Pilot Monitoring (PM) and the Second in Command (SIC) acted as Pilot Flying (PF).
5. During the predeparture briefing, the PIC added some information about the local procedures of Bangkok to the SIC because that was the SIC's first time flying from Bangkok.
6. All Flight Attendants (FAs) were Indonesian who held valid Flight Attendant Certificates (FAC) and rated on Boeing 737. The FAs also held valid Second-Class medical certificates.
7. At an altitude of about 300 feet, the PIC noticed that the N1 engine was 53%, then increased the throttle lever to reach about 57% N1 and informed the SIC.
8. While passing the runway threshold, the PIC noticed that the Enhanced Ground Proximity Warning System (EGPWS) altitude callout interval was quicker than normal and assisted in holding the control column during the flare.
9. The aircraft was experiencing bouncing during touch down.
10. The lower surface on the aft fuselage skin and tailskid damper were scratched and deflected respectively.

⁴ 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.

3 SAFETY ACTION

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

4 SAFETY RECOMMENDATIONS

At the time of publishing this Preliminary Report, KNKT was not issuing any safety recommendation. 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 will publish it as required.

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