AA2023-2

AIRCRAFT ACCIDENT
INVESTIGATION REPORT

Japan Air Commuter Co., Ltd.
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March 30, 2023

JTSB Japan Transport Safety Board

The objective of the investigation conducted by the Japan Transport Safety Board in accordance with the Act for Establishment of the Japan Transport Safety Board and with Annex 13 to the Convention on International Civil Aviation is to determine the causes of an accident and damage incidental to such an accident, thereby preventing future accidents and reducing damage. It is not the purpose of the investigation to apportion blame or liability.

TAKEDA Nobuo
Chair
Japan Transport Safety Board

Note:

This report is a translation of the Japanese original investigation report. The text in Japanese shall prevail in the interpretation of the report.

《Reference》

The terms used to describe the results of the analysis in "3. ANALYSIS" of this report are as follows.

i) In case of being able to determine, the term "certain" or "certainly" is used.
ii) In case of being unable to determine but being almost certain, the term "highly probable" or "most likely" is used.
iii) In case of higher possibility, the term "probable" or "more likely" is used.
iv) In a case that there is a possibility, the term "likely" or "possible" is used.

AIRCRAFT ACCIDENT INVESTIGATION REPORT

February 24, 2023
Approved by the Japan Transport Safety Board
Chair TAKEDA Nobuo
Member SHIMAMURA Atsushi
Member MARUI Yuichi
Member SODA Hisako
Member NAKANISHI Miwa
Member TSUDA Hiroka

Company	Japan Air Commuter Co., Ltd.
Type, Registration Mark	ATR 72-212A, JA06JC
Incident Class	Passenger injury upon landing
Date and Time of Occurrence	About 09:49 Japan Standard Time (JST=UTC+9 hours), November 7, 2022
Accident Site	A runway at Kagoshima Airport (31° 47′ 42″ N, 130° 43′ 30″ E)

1. PROCESS AND PROGRESS OF THE ACCIDENT INVESTIGATION

Summary of the Accident	The aircraft (regularly scheduled Flight 3760) took off from Tanegashima Airport, and upon landing at Kagoshima Airport, one passenger was seriously injured, suffering a lumbar compression fracture.
Outline of the Accident Investigation	On November 18, 2022, the Japan Transport Safety Board (JTSB) designated an investigator-in-charge and two other investigators to investigate the accident. The parties relevant to the cause of the accident and the relevant state were invited to comment on the draft final report.

2. FACTUAL INFORMATION

Aircraft Information

Aircraft type: ATR 72-212A
Serial number: 1524
Date of manufacture: October 2, 2018
Airworthiness certificate: No.2018-039. Validity period of airworthiness certificate:
From October 29, 2018, until the end of the period during which the aircraft is maintained in accordance with the Maintenance Management Manual (Japan Air Commuter Co., Ltd.)

Personnel Information

Captain: Age 58, Airline transport pilot, Rated for ATR-42/72

Meteorological Information

Aeronautical Weather Observations for Kagoshima Airport
10:00 Wind direction 060°; Wind speed 3 kt; Visibility 10 km or more
Clouds: FEW 2,500 ft; BKN 3,000 ft
Temperature: 17℃, Dew point: 11℃, Barometric pressure: 1,022 hPa

Event and Relevant Information

(1) History of the flight

According to statements by the flight crew and the cabin crew, the winds near the runway at Kagoshima Airport were crosswinds of 3 to 4 kt and there were no significant air currents. The aircraft made an approach to Runway 34 at the proper speed and landed there as usual, with no impression of a particularly hard landing. The aircraft taxied to the apron, and while the cabin crew were confirming the passengers' disembarkation from the aircraft, one passenger, who remained curled up in seat 7A, told them, "I hurt my lower back when we landed." A cabin crew member recommended that the passenger use a wheelchair and go to the hospital, but the passenger descended the boarding ramp and walked to the terminal.

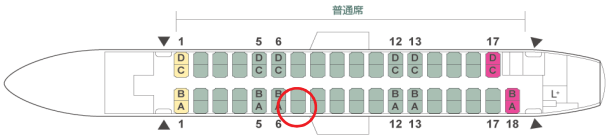

Figure 1. The seat of the injured passenger

Figure 2. The aircraft and boarding ramp

(2) Developments after the flight

The passenger went to a hospital near the airport, escorted by airline staff, for a medical check and x-ray examination, and was diagnosed with a "lumbar sprain". However, from around November 9, the passenger's lower back pain intensified, and on November 11, the passenger underwent medical examinations and MRI scans at another hospital and was diagnosed with an L2 (second lumbar) compression fracture (suffered in the aircraft on November 7).

The passenger had a previous history of such fracture and usually wore a lumbar belt. However, as the belt had triggered airport security before, the passenger had taken it off so as to pass through airport security smoothly and had boarded without wearing the belt. The passenger sometimes flew and was aware of the passenger's posture to ready for any shock at takeoff or landing, but the passenger was sleeping during the landing of this flight.

(3) Records from the quick access recorder (QAR)

The vertical acceleration at landing was +1.53 G.

(4) About the aircraft

The investigation of the aircraft and its seat conditions after the accident found no faults in either of these.

3. ANALYSIS

(1) Influence of weather on the landing

The JTSB concluded that the weather at Kagoshima Airport at the time of the accident most likely had no impact on the accident, because the visibility was good, the wind direction was 60°, the wind speed was 3 kt, and there was no significant air turbulence.

(2) Influence of flight operations at the time of the landing

The JTSB concludes that according to the QAR records, the vertical acceleration at landing was +1.53 G, and there were no abnormalities in other flight data. In addition, as the crewmembers stated that the landing was no different than usual, it is highly probable that the flight operations had no effect on the accident.

(3) Involvement of the aircraft

The JTSB concludes from the results of the aircraft investigation that the aircraft was most likely not a contributing factor in the accident.

(4) Injured passenger

The JTSB concludes that the passenger had a previous history of an L2 (second lumbar) compression fracture, but did not wear the lumbar belt that the passenger usually wore for lower back support. In addition, as the passenger was sleeping at the time of the landing, the passenger did not take a ready posture for some impact at landing, which likely contributed to the passenger's L2 (second lumbar) compression fracture.

4. PROBABLE CAUSES

The JTSB concludes that the probable cause of this accident was that a seated passenger more likely suffered a lumbar compression fracture during landing due to the impact at touchdown. In addition, it is highly probable that the weather conditions during landing, the flight operations, and the aircraft were not contributing factors to the passenger's injury.