

AI2022-3

**AIRCRAFT SERIOUS INCIDENT
INVESTIGATION REPORT**

**PRIVATELY OWNED
JA76EL**

April 28, 2022

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 prevent future accidents and incidents. It is not the purpose of the investigation to apportion blame or liability.

TAKEDA Nobuo
Chairperson
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 SERIOUS INCIDENT INVESTIGATION REPORT



April 8, 2022

Adopted by the Japan Transport Safety Board

Chairperson TAKEDA Nobuo
 Member SHIMAMURA Atsushi
 Member MARUI Yuichi
 Member SODA Hisako
 Member NAKANISHI Miwa
 Member TSUDA Hiroka

| | |
|--|---|
| Company | Privately owned (Entrusted flight operation to Ogawa Air Co., Ltd.) |
| Type, Registration Mark | Robinson R44 II (Rotorcraft) JA76EL |
| Incident Class | Take-off from a taxiway Article 166-4, item (i), (d) of the Ordinance for Enforcement of the Civil Aeronautics Act of Japan |
| Date and Time of the Occurrence | At about 09:14 JST (JST: UTC+9 hours, unless otherwise noted, all times are indicated in JST in this report on a 24-hour clock), September 23, 2021 |
| Site of the Serious Incident | Nagasaki Airport, Nagasaki Prefecture |

1. PROCESS AND PROGRESS OF THE INVESTIGATION

| | |
|--|--|
| Summary of the Serious Incident | On Thursday, September 23, 2021, when taking off from Nagasaki Airport, the aircraft was cleared for take-off from the runway by the air traffic controller, but took off from a taxiway at about 09:14. |
| Outline of the Serious Incident Investigation | An investigator-in-charge and an investigator were designated on September 23, 2021. Comments were invited from Parties Relevant to the Cause of the serious incident. Comments on the draft report were invited from the Relevant State. |

2. FACTUAL INFORMATION

| | |
|---|---|
| Aircraft Information | |
| Aircraft type: | Robinson R44 II |
| Serial number: 14444 | Date of manufacture: February 17, 2021 |
| Airworthiness certificate: DAI-2021-030 | Validity: April 15, 2022 |
| Personnel Information | |
| Captain: | Age: 39 |
| Commercial captain certificate (Rotorcraft) | December 11, 2008 |
| Specific captain competence certificate | |
| | Expiry of practicable period for flight: April 30, 2023 |
| Type rating for single-engine piston (Land) | April 23, 2008 |
| Class 1 aviation medical certificate | Validity: April 29, 2022 |

| | |
|---------------------------------|------------------------|
| Total flight time | 2,374 hours 02 minutes |
| Flight time in the last 30 days | 4 hours 54 minutes |

Meteorological Information

The serious incident was not involved by the weather conditions.

Event Occurred and Relevant Information

(1) History of the flight

On the day of the serious incident, the aircraft planned to fly from Nagasaki Airport to Kagoshima Airport, Kagoshima Prefecture, for personnel transport under visual flight rules. At 09:11, the aircraft with the captain and two persons onboard requested departure instruction to the ground control position at Nagasaki Aerodrome Control Facility (hereinafter referred to as “the Ground”), and was instructed Runway 32 to use and taxiing to the runway holding point*1 on taxiway T2.

The aircraft that commenced taxiing called the tower control position of the aerodrome control facility (hereinafter referred to as “the Tower”) (in the position of (i) in Figure 1) while taxiing to taxiway T2, and was cleared for take-off with the phraseology “RUNWAY32 AT T2, CLEARED FOR TAKE-OFF (take-off from T2 intersection at Runway 32 was cleared)” at 09:13 (in the position of (ii) in Figure 1). The captain read back what was told but interpreted to be cleared for take-off from Taxiway T2, and the aircraft took off from Taxiway T2 in parallel with the runway 32 direction at about 09:14 (in the position of (iii) in Figure 1).

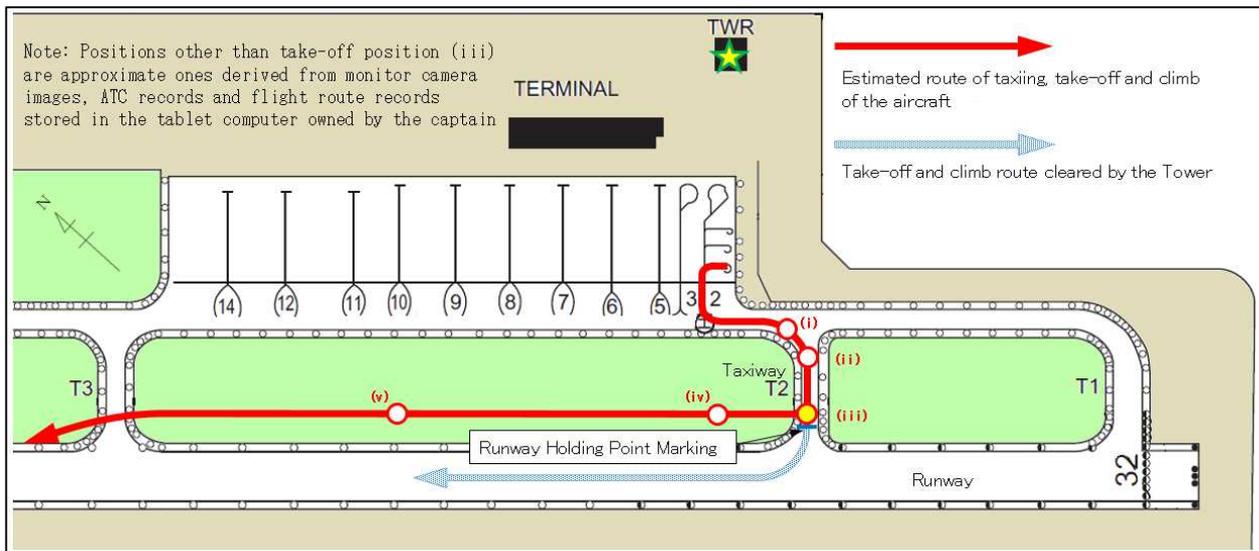


Figure 1 Movements of the aircraft (when departing from Nagasaki Airport)

The Tower, after issuing take-off clearance to the aircraft, visually recognized that the aircraft was turning to the right in the northwestern direction on Taxiway T2 (in the position of (iii) in Figure 1), and wondered if there occurred something wrong with it because of its unusual movement; however, the Tower did not suppose that the aircraft was taking off. The Tower, which visually recognized that the aircraft took off from Taxiway T2, was confused by its unexpected movement, and issued the take-off clearance from Runway 32 again to have the captain realize that the clearance was intended for take-off from the runway (in the position of (iv)). The captain read back again as the captain was told so, but continued climbing with moving forward in parallel with the Runway 32 direction as the captain missed the intention of the Tower to re-issue the clearance. As the Tower further instructed the aircraft to take off from the runway in Japanese (in the position

of (v) in Figure 1), the captain realized that the Tower warned that the aircraft took off from the incorrect take-off area. The aircraft then commenced left turn at some 800 m ahead of Taxiway T2 and moved to over Runway 32 to continue the flight.

(2) Response of the captain

The captain engaged in flight operations as a pilot for a year and three months or so until July 2019 at other air carrier based at Kagoshima Airport. Then, the captain had engaged in flight operations of the aircraft as a contract pilot of the company based at Kagoshima Airport since April 2021, and was familiar with helicopter operations at Kagoshima Airport. On the other hand, the captain was conscious that flight operations at an unfamiliar airport required deliberate maneuverings since this was the first flight operation at Nagasaki Airport for the captain, and was aware that there was no helipad installed on Taxiway T2.

During taxiing, the captain intended to take off from T2 intersection at Runway 32. When the captain reported to the Tower that the aircraft was ready for take-off, the captain expected to be instructed to hold on the runway by the Tower; however, since take-off clearance including the phraseology of “T2 (Taxiway T2)” was promptly issued, the captain thought that take-off clearance from Taxiway T2, where a helipad was not installed, was granted by the Tower in a flexible manner. In addition, since the captain did not feel any difference from the take-off clearance the captain used to receive on the helipad on Taxiway T2 at Kagoshima Airport, the captain, having no doubt about take-off clearance from taxiway T2, had the aircraft take off from Taxiway T2 at Nagasaki Airport in the same manner as from T2 Helipad at Kagoshima Airport,.

(3) Helicopter operations at Nagasaki and Kagoshima Airports

While take-off and landing at an airport are performed on runway in principle, the ATC Operational Guidelines prescribed by Nagasaki Aerodrome Control Facility stipulates that take-off and landing area for helicopters under visual flight rules at Nagasaki Airport shall be runway or helipad. The helipads at Nagasaki Airport are installed and published in two locations on the parallel taxiway, but not on Taxiway T2.

On the other hand, at Kagoshima Airport, a helipad is installed and published on Taxiway T2, located close to the helicopter apron, and used for take-off and landing.

(4) Take-off clearance by air traffic controller

The III Standards for Air Traffic Control Procedures, Air Traffic Control Services Procedure Handbook set forth by the Civil Aviation Bureau of Japan (hereinafter referred to as “the ATC Standard”) stipulates that the name of intersection used by the aircraft concerned shall be designated in case of intersection departure*2, when issuing the take-off clearance (for example: RUNWAY34 AT T2, CLEARED FOR TAKE-OFF. (Take-off from T2 intersection at Runway 34 is cleared.)).

Besides, the ATC Standard stipulates that take-off clearance to a helicopter from take-off and

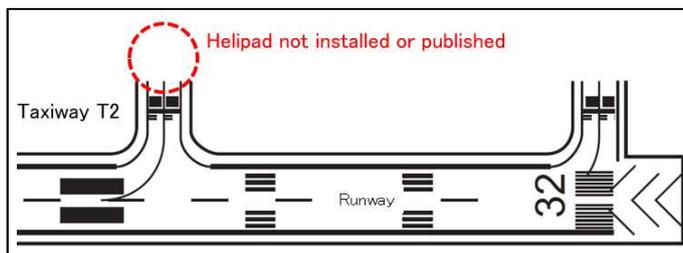


Figure 2 Taxiway T2 at Nagasaki Airport



Figure 3 Taxiway T2 at Kagoshima Airport

landing area other than runway shall be issued with stating the name of the take-off and landing area at the end of the clearance phraseology (for example: CLEARED FOR TAKE-OFF FROM T2 HELIPAD. (Take-off from T2 Helipad is cleared.)).

The Tower issued the take-off clearance from T2 intersection at Runway 32 to the aircraft, as per the phraseology stipulated in the ATC Standard.

*1 "Runway holding point" is a place where aircraft or vehicles stop and wait and is a position on a taxiway that connected to the runway concerned.

*2 "Intersection departure" is a take-off procedure in which an aircraft commences take-off roll from any intersection with another runway or taxiway other than the end of runway.

3. ANALYSIS

Situation at the time of take-off:

The aircraft was instructed by the Ground the using runway and taxiing to the runway holding point on Taxiway T2. The JTSB concludes that the captain is probable to have expected to take off from T2 intersection at Runway 32 at this moment.

When the captain called the Ground thereafter to report that the aircraft was ready for take-off, the take-off clearance was issued earlier than the captain expected. The JTSB concludes that it is probable that the captain misinterpreted that take-off from Taxiway T2, where a helipad was not installed, was cleared in a flexible manner by the Tower since take-off clearance including the phraseology of "T2 (Taxiway T2)" was promptly issued. It is probable that such a misinterpretation of the captain was contributed by customary practice to take off from T2 helipad at Kagoshima Airport the captain normally used, and the captain's failure when cleared for take-off to correctly recognize the difference between the phraseologies of take-off clearance from runway by intersection departure and that from a helipad.

4. PROBABLE CAUSES

The JTSB concludes that the probable cause of this serious incident was more likely the captain's misinterpretation that, when cleared by the Tower for take-off from T2 intersection at Runway 32, the aircraft was cleared for take-off from Taxiway T2 that led to the take-off from the Taxiway T2.

5. SAFETY ACTIONS

On the day of the serious incident, the company reminded all employees for their thorough understanding that take-off from any area other than runway or helipad is not authorized.