AIRCRAFT SERIOUS INCIDENT INVESTIGATION REPORT

ATTEMPTED LANDING ON A RUNWAY
BEING USED BY OTHER AIRCRAFT
KOHNAN AERODROME,
OKAYAMA CITY, OKAYAMA PREFECTURE
AT AROUND 13:01 JST, JUNE 20, 2023
1. TAKUMI ENTERPRISE CO., LTD.
ROBINSON R44 (HELICOPTER), JA01CG
2. OKAYAMA AIR SERVICE CO., LTD.
CESSNA 172R, JA10AZ

July 3, 2025
Adopted by the Japan Transport Safety Board

Chairperson	RINOIE Kenichi
Member	TAKANO Shigeru
Member	MARUI Yuichi
Member	SODA Hisako
Member	TSUDA Hiroka
Member	MATSUI Yuko

1. PROCESS AND PROGRESS OF THE AIRCRAFT SERIOUS INCIDENT INVESTIGATION

1.1 Summary of the Serious Incident	On Tuesday, June 20, 2023, at Kohnan Aerodrome, a Cessna 172R, JA10AZ, operated by Okayama Air Service Co., Ltd., was advised by Kohnan Flight Service＊1 that the runway was clear, and was approaching the runway in order to conduct touch and go＊2 training, but made a go-around because a Robinson R44, JA01CG, operated by Takumi Enterprise Co., Ltd., which had been advised by Kohnan Flight Service to hold short of the runway, entered the runway.
1.2 Outline of the Serious Incident Investigation	The occurrence covered by this report falls under the category of "Attempted of landing on a runway being used by another aircraft" as stipulated in Article 166-4, item (ii) of the Regulation for Enforcement of Civil Aeronautics Act of Japan (Order of the Ministry of Transport No.56 of 1952) and is classified as a serious incident.

＊1 "Flight Service" refers to a radio station that is set up at places such as aerodromes, heliports and glider fields for communication with aircraft to provide flight advisory.
＊2 "Touch and go" refer to the flight method in which after the touchdown, an aircraft takes off again without stopping on the runway or leaving the runway.

	On June 20, 2023, the Japan Transport Safety Board (JTSB) designated an investigator-in-charge and an investigator to investigate this serious incident. An accredited representative of the United States of America, as the State of Design and Manufacture of the aircraft (JA01CG and JA10AZ) involved in this serious incident, participated in the investigation. Comments on the draft Final Report were invited from parties relevant to the cause of the serious incident. Comments on the draft Final Report were invited from the relevant State.

2. FACTUAL INFORMATION

2.1 History of the Flight

According to the statements of the captain who was the flight instructor (hereinafter referred to as "Captain A") and the student pilot who was controlling the aircraft (hereinafter referred to as "Student Pilot A") of Robinson R44, JA01CG (hereinafter referred to as "Aircraft A"), operated by Takumi Enterprise Co., Ltd.(hereinafter referred to as "the Company"), the captain (trainee) (hereinafter referred to as "Captain B") and the instructor (hereinafter referred to as "Instructor B") of Cessna 172R, JA10AZ (hereinafter referred to as "Aircraft B"), operated by Okayama Air Service Co., Ltd. as well as an official at Kohnan Flight Service (hereinafter referred to as "the Flight Service"), the history up to the serious incident is summarized as follows:

Figure 1: Aircraft A

Figure 2: Aircraft B

At around 12:04 (JST: UTC+9 hours; unless otherwise noted, all times are indicated in JST in this report on a 24-hour clock), Aircraft B, with Captain B in the left pilot seat and Instructor B in the right pilot seat, took off from Runway 09 at Kohnan Aerodrome for Captain B to obtain a commercial pilot certificate, and conducted flight training in a training area located approximately 12 nm east of the aerodrome.

At around 12:45, Aircraft A, with Student Pilot A in the right pilot seat and Captain A, the flight instructor, in the left pilot seat took off from Runway 09 at the aerodrome for Student Pilot A to obtain a private pilot certificate and flew around the southern traffic pattern once. (See white dotted line in Figure 4)

	At around 12:53, Aircraft A landed and returned to Spot I3 (Figure 3). Judging that it would be possible for Student Pilot A to fly solo, Captain A disembarked. Aircraft B planned to conduct a total of five touch and goes at the aerodrome. At around 12:54, Aircraft B reported to the Flight Service that it was entering the left downwind leg (orange line in Figure 4) on Runway 09 for the first touch and go. The Flight Service informed Aircraft B that "RUNWAY IS CLEAR." Captain B read it back. At around 12:56, Aircraft B conducted the first touch and go. At around 12:57, Aircraft A requested the Flight Service to provide the information on ground taxiing. (At Position a. in Figure 3) The Flight Service advised Aircraft A to taxi to Taxiway T3. Aircraft A read it back and started air-taxiing＊3. According to the statement, student Pilot A was nervous because it was Student Pilot A's first solo flight. In addition, Student Pilot A was concentrating on flying the aircraft to cope with the changes in weight and balance caused by Captain A's disembarkation, and the crosswind during the air-taxiing. At around 12:58, Aircraft B reported to the Flight Service that it was entering the left downwind leg for the second touch and go. (At Position b. in Figure 4) The Flight Service informed Aircraft B that "RUNWAY IS CLEAR." Captain B read it back. Student Pilot A was not aware of this radio communication. At around 12:59, as there was Aircraft B on the base leg which was scheduled to conduct a touch and go, the Flight Service informed Aircraft A that "TRAFFIC ON BASE FOR TOUCH AND GO, ADVISE HOLD SHORT OF RUNWAY." Student Pilot A read back "HOLD SHORT OF RUNWAY." (At Position c. in Figure 3) Student Pilot A misunderstood "HOLD SHORT OF RUNWAY "for "LINE UP AND WAIT". Student Pilot A visually checked the base leg and final leg before entering the runway, but could not visually any traffic, thus Aircraft A entered the runway. At around 13:01, the Flight Service checked again for birds and other obstructions on the runway before Aircraft B conducted a touch and go and visually recognized that Aircraft A had entered the runway. (At Position d. in Figure 3) Aircraft A entered the runway, therefore the Flight Service advised Aircraft B to "GO AROUND." Aircraft B made a go-around immediately after entering the final leg. (Altitude: about 500 ft) (At Position e. in Figure 4) The Flight Service again confirmed with Aircraft A concerning the holding short advice that the Flight Service had already given.

＊3 According to the definition in Annex 2 to the Convention on International Civil Aviation, "air-taxiing" refers to the movement of a helicopter above the surface of an aerodrome, normally in ground effect and at a ground speed normally less than 20 kt.

Student Pilot A reported to the Flight Service to the effect that Student Pilot A had entered the runway by mistake and Aircraft A returned to Taxiway T3.

Aircraft B climbed to an altitude of about 800 ft near the runway threshold and passed over the runway, maintaining that altitude.

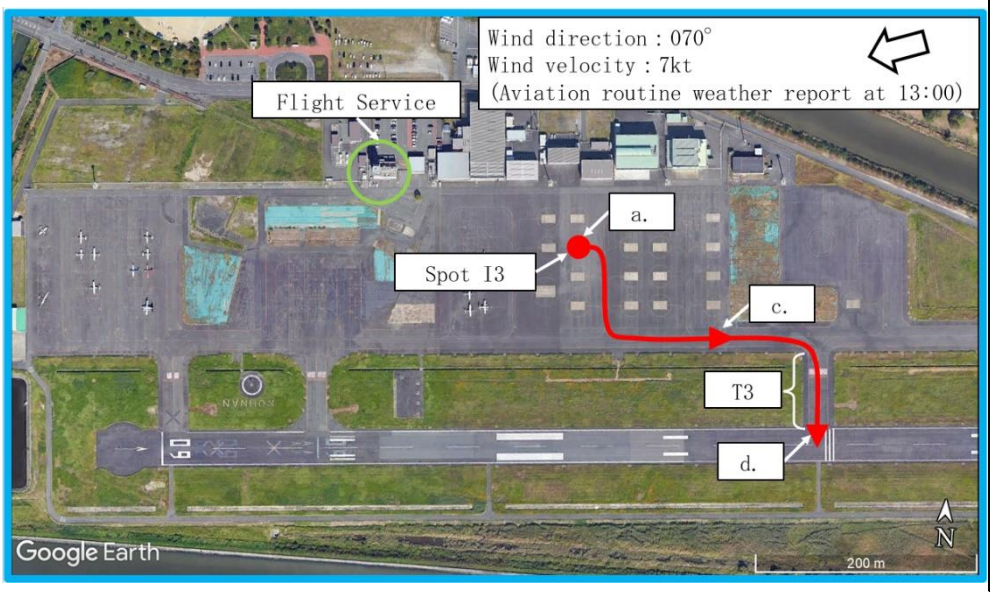

Figure 3: Estimated Taxiing Route of Aircraft A
(based on the statements)

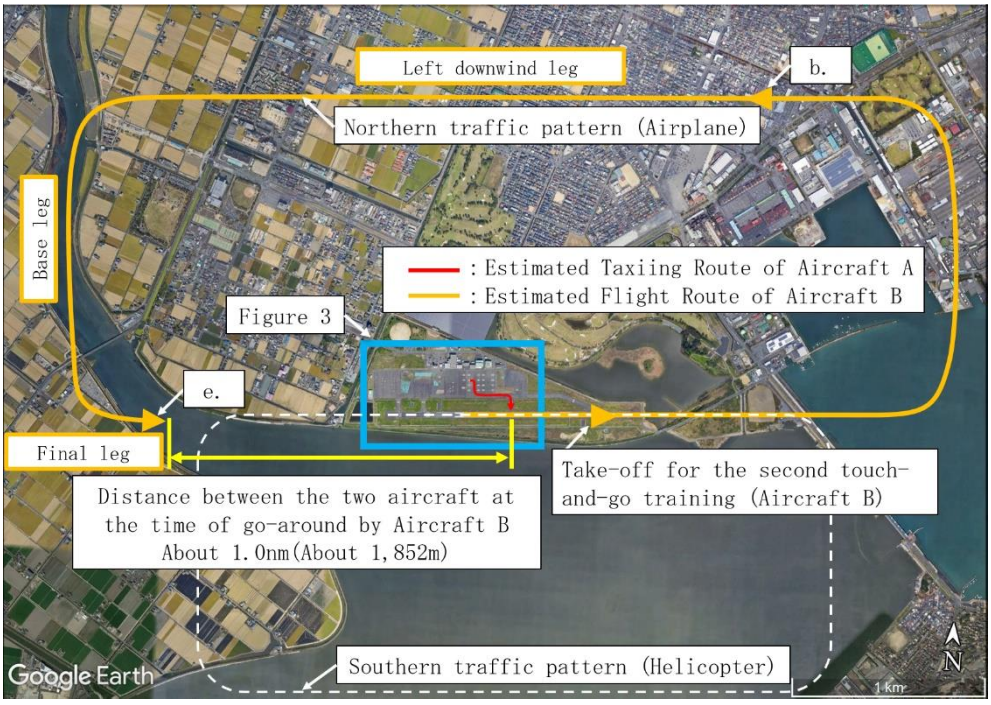

Figure 4: Estimated Flight Route of Aircraft B and Distance between the Two Aircraft at the time of Go-around by Aircraft B
(based on statements)

Table 1: Contents of Radio Communications (based on statements from the parties involved and notes from the Flight Service)

Time	Transmitter	Content of communication	Alphabet code in Figure 3 and Figure 4
12:57	JA01CG	「KOHNAN FLIGHT SERVICE JA01CG SOLO AT SPOT I3. REQUEST TAXI INFORMATION STOP AND GO.」	a.
12:57	The Flight Service	「JA01CG SOLO RUNWAY09 WIND 070/05 QNH 2976 TAXI TO HOLDING POINT T3.」	—
12:57	JA01CG	「ROGER RUNWAY09 QNH2976 TAXI TO T3.」	—
12:58	JA10AZ	「KOHNAN FLIGHT SERVICE JA10AZ ENTERING LEFT DOWN WIND FOR TOUCH AND GO.」	b.
12:58	The Flight Service	「JA10AZ RUNWAY09 RUNWAY IS CLEAR FOR TOUCH AND GO WIND 070/05.」	—
12:58	JA10AZ	「JA10AZ RUNWAY IS CLEAR FOR TOUCH AND GO.」	—
12:59	The Flight Service	「JA01CG TRAFFIC ON BASE FOR TOUCH AND GO, ADVISES HOLD SHORT OF RUNWAY.」	—
12:59	JA01CG	「JA01CG ROGER HOLD SHORT OF RUNWAY.」	c.
13:01	—	Occurrence of runway incursion by JA01CG	d.
13:01	The Flight Service	「JA10AZ TRAFFIC ENTERING RUNWAY GO-AROUND.」	—
13:01	JA10AZ	「JA10AZ GO-AROUND.」	e.
13:01	The Flight Service	「THIS IS KOHNAN. Advised HOLD SHORT OF RUNWAY.」	—
13:01	JA01CG	「I'M SORRY. I MADE A MISTAKE. I'LL GO BACK TO T3.」	—

2.2 Injuries to Persons

None

2.3 Damage to the Aircraft

None

2.4 Personnel Information

(1) Captain A: Age 53

Commercial pilot certificate (Helicopter) August 4, 1999
Ratings and limitation: Land single-piston August 4,1999
Pilot competence assessment/confirmation
Expiry date of piloting capable period October 13, 2024

Flight instructor rating (Helicopter) April 24, 2020
Class 1 aviation medical certificate Validity: April 14, 2024
Total flight time 4,621 hours 28 minutes
Flight time in the last 30 days 33 hours 23 minutes
Total flight time on the type of aircraft 3,610 hours 35 minutes
Flight time in the last 30 days 18 hours 30 minutes

(2) Pilot Student A: Age 21

Flight training certificate (Helicopter) Validity: February 29, 2024
Total flight time 15 hours 24 minutes
Flight time in the last 30 days 13 hours 30 minutes
Total flight time on the type of aircraft 15 hours 24 minutes
Flight time in the last 30 days 13 hours 30 minutes

(3) Captain B: Age 20

	Private pilot certificate (Airplane) April 19, 2023 Ratings and limitation: Land single-piston April 19, 2023 Class 2 aviation medical certificate Validity: May 14, 2028 (4) Instructor B: Age 48 Commercial pilot certificate (Airplane) June 4, 1998 Ratings and limitation: Land single-piston January 7,2022 Pilot competence assessment/confirmation Expiry date of piloting capable period January 7, 2024 Class 1 aviation medical certificate Validity: March 21, 2024
2.5 Aircraft Information	(1) Aircraft A Aircraft type: Robinson R44 Serial number: 1076 Date of manufacture: June 13, 2001 Airworthiness certificate: No. Dai-2023-083 Validity date: May 11, 2024 (2) Aircraft B Aircraft type: Cessna 172R Serial number: 17281142 Date of manufacture: December 16, 2002 Airworthiness certificate: No. Dai-2022-698 Validity date: March 5, 2024
2.6 Meteorological Information	The observation data in the aviation routine weather report at the aerodrome at around the time of the serious incident was as follows: 13:00 Wind direction: 070°, Wind velocity: 7 kt, Prevailing visibility: 30 km Clouds: Amount 1/8 to 2/8, Type Stratus, Cloud base 3,000 ft Clouds: Amount 3/8 to 4/8, Type Unknown, Cloud base Unknown Temperature: 27°C, Dew point: 16°C Altimeter setting (QNH): 29.76 inHg

2.7 Additional Information	(1) Training for Student Pilot A Student Pilot A was on the company's course to obtain a private pilot certificate. The syllabus of the training is divided into three stages, and Student Pilot A had just progressed to the stage 2, Solo Flight, and Advanced Operations Training. (2) Experience in Radio Communications related to Enter Runway Student Pilot A had received from the Flight Service, and responded to the phraseology "HOLD SHORT OF RUNWAY" once or twice, and the phraseology "LINE UP AND WAIT" about four times in the training flight with Captain A of the Training Stage 1, both of which Student Pilot A was able to deal with without problem. (3) Contents of Radio Communication Training The company provided Student Pilot A with the text on radio communication with ATC facilities and others, and documents on the guidelines for communication with ATC facilities and others at Kohnan Aerodrome, as well as simulation exercises on radio communication in briefings and debriefings a total of twenty times, to which Student Pilot A was able to respond without problems. (4) Solo Flight Check-ride The company had provided solo flight check-rides based on the notification by the Civil Aviation Bureau "Solo Flight Safety Criteria (Helicopter)" (issued on December 18, 1997; Ku Jo No. 2103). The notification stipulates as one of instruction guidelines that the flight instructor shall instruct the student pilot to "monitor the communications with ATC facilities, flight service stations and others" and confirm that a student pilot understands them, and also stipulates as one of the competences required of student pilots that a student pilot shall be able to "communicate with ATC facilities and others". In addition, the notification stipulates that a student pilot shall have check-rides with more than two instructors. Student Pilot A had solo flight check-rides with Captain A and another flight instructor who confirmed that Student Pilot A had the competences required for a solo flight including the skills to communicate with ATC facilities and others. Student Pilot A had a check-ride with another flight instructor the day before the serious incident. (5) Operations of Kohnan Flight Service Kohnan Flight Service is a flight advisory service station operated by the Aerodrome Support and Aeronautical Service, a general incorporated foundation commissioned by Okayama Prefecture, the administrator of Kohnan Aerodrome. Kohnan Flight Service provides aircraft flying around Kohnan Aerodrome with information on weather conditions, runway conditions and traffic. (6) Phraseology Used by Kohnan Flight Service Phraseology Kohnan Flight Service uses is based on the Aerodrome Information Service Handbook developed by the Aerodrome Support and

	Aeronautical Service, a general incorporated foundation. (7) Installation of Communications Recording Devices at Flight Service The Kohnan Flight Service, which provides flight information services, was no communication recording devices installed. The Convention on International Civil Aviation prescribes the following regarding communications recording facilities. a. Provisions of Annexes to the Convention on International Civil Aviation relating to communication recording facilities (see Table 2) Air traffic services are divided into air traffic control service, flight information service, and alerting service in Annex 11 and 10 to the Convention on International Civil Aviation, which specify the establishment of communications recording facilities and requirements for retention of communications recordings as an international standard only for air traffic control service as follows: *Annex 11 (excerpt)* *CHAPTER 6. Air traffic services requirements for communications* *6.1.1.3 When direct pilot-controller two-way radiotelephony or data link communications are used for the provision of air traffic control service, recording facilities shall be provided on all such air-ground communication channels.* *Note. — Requirements for retention of all automatic recordings of communications in ATC are specified in Annex 10, Volume II, 3.5.1.5.* *6.1.1.4 Recordings of communications channels as required in paragraph 6.1.1.3 shall be retained for a period of at least thirty days.* *Annex 10 (excerpt)* *3.5.1.5 Telecommunication logs, written or automatic, shall be retained for a period of at least thirty days. When logs are pertinent to inquiries or investigations they shall be retained for longer periods until it is evident that they will be no longer required.* b. Installation of communication recording devices and the retention of communications recordings at flight information service (see Table 2) With regard to the installation of radio communication recording devices and the retention of radio communication recordings relating to the flight information service (equivalent to the service provided by flight supporting facilities and Flight Service (Flight Advisory Service Station) in Japan), no provisions are specified based on the Annexes to the Convention on International Civil Aviation (ICAO). However, through the Aerodrome Flight Information Service (AFIS), Area/En-route Information Service (AEIS), and international air-ground communication service, which are provided by flight supporting facilities with telecommunications facilities established by the Government of Japan (GOJ), ATC communications and reporting between ATC facilities and aircraft are transmitted, and therefore those communications and reporting are recorded in accordance with the Annexes to the ICAO. In

addition, Article 60 of the Radio Act states that radio logs shall be kept, and Article 40 of the Regulations for Enforcement of the Radio Act specifies the items to be written in radio logs, therefore, in view of the need to enter the contents of communications in detail and correctly when writing a radio log, recordings are made as a means of recording communications.

On the other hand, through the Automatic Terminal Information Service (ATIS) provided by flight supporting facilities with GOJ, only information shall be provided and the requirements are different from those for the transmission of ATC communications and reporting between ATC facilities and aircraft, however, as mentioned above, in view of the need to enter the contents of communications in detail and correctly when writing a radio log, recordings are made as a means of recording communications.

However, in addition to flight services such as Kohnan Flight Service with a telecommunications facility established by parties other than the Government, glider fields, temporary flight sites and others (hereinafter referred to as "Flight Services"), where communications recording facilities may not be provided in some cases.

Table 2: Establishment of Communications Recording Facilities in Air Traffic Control Services and Flight Information Service

Annex 11 to the Convention on International Civil Aviation		Control Service/Flight Information Service in Japan			
Types of Air Traffic Services	Requirements for Installation of Communication Recording Devices	Types of Air Traffic Services	Provider of Telecommunications facilities	Whether or not a communication recording device is installed	Reason for Installation
Air Traffic Control Service	Yes	Air Traffic Control Service	GOJ	Yes	A, B
Flight information service	No	AFIS			
		AEIS			
		International Air-ground Communication			
		ATIS			B
		Flight Service (Flight Advisory Service Station), etc.	Parties other than GOJ	There are some cases without the device	—

Reason for Installation A : Transmission of ATC Communications
B : The contents of communications shall be entered in detail and correctly for writing radio log

3. ANALYSIS

(1) Aircraft A Entering the Runway

The JTSB concludes that it is certain that while Aircraft B was approaching to the runway

to conduct touch and go, Aircraft A, which had been advised to hold short of the runway, entered the runway by mistake. Aircraft A entered the runway by mistake most likely because Student Pilot A misunderstood the hold short of runway advice from Flight Service for the line up and wait advice.

In addition, the following factors are likely to contribute to the situation.

- As the solo flight in this serious incident was the first one for Student Pilot A, Student Pilot A was in a state of mental tension.
- Student Pilot A was concentrating on flying the aircraft to cope with the changes in weight and balance caused by Captain A's disembarkation, and the crosswind.

(2) Solo Flight Check-ride

The JTSB concludes that in a solo flight check-ride, there were no radio communication problems regarding Student Pilot A's radio communication skills associated with the use of the runway during the training flight and radio communication simulation exercises, and therefore it was most likely confirmed that Student Pilot A had the radio communication skills required for a solo flight.

It is necessary for the flight instructor to confirm that the student pilot has the skills to communicate with ATC facilities and others required for a solo flight by considering the following in the solo flight check-ride for a student pilot.

- The ability to communicate properly with ATC facilities and others, even in such an environment where a student pilot might feel stressful at the time of the first solo flight, or should be concentrating on flying an aircraft.
- The ability to monitor the radio communications between other aircraft and ATC facilities and others, and to grasp the movements of other aircraft.

(3) Recording of Communications at Flight Services

Kohnan Flight Service, which provides flight information service, did not have a recording device.

It is essential for accurate investigation of accident and incident to record radio communications between Flight Services and aircraft made to ensure the safe operation of aircraft, which probably helps prevent future accident and incident. In addition, as the record of radio communications may be useful in improving the quality and safety of information services, it is desirable to record and retain as much of the radio communications as possible.

(4) Classification of Severity

The JTSB concludes that the distance between the two aircraft when Aircraft B executed a go-around was probably about 1.0 nm (about 1.9 km). And the serious incident certainly falls under the severity classification of Category C (An incident characterized by ample time and/or distance to avoid a collision) of "Manual on the Prevention of Runway Incursions" of ICAO with classification tools provided by ICAO. (See Attachment “Severity Classifications of Runway Incursions”).

4. PROBABLE CAUSES

The JTSB concludes that the probable cause of this serious incident is certain that while Aircraft B was approaching to conduct touch and go, Aircraft A, which had been advised to hold short of the runway, entered the runway by mistake.

Aircraft A entered the runway by mistake most likely because Student Pilot A misunderstood the hold short of runway advice from Flight Service for the line up and wait advice.

5. SAFETY ACTIONS

5.1 Safety Actions Required	It is necessary for the flight instructor to confirm that the student pilot has the skills to communicate with ATC facilities and others required for a solo flight by considering the following in the solo flight check-ride for a student pilot. ・The ability to communicate properly with ATC facilities and others, even in such an environment where a student pilot might feel stressful at the time of the first solo flight, or should be concentrating on flying an aircraft. ・The ability to monitor the radio communications between other aircraft and ATC facilities and others, and to grasp the movements of other aircraft.
5.2 Safety Actions Taken after the Serious Incident	In response to this serious incident, the company had taken the following safety actions. (1) It was decided to review the syllabus for theory training (air traffic control), taking into account the following. ・During the first solo flight (in circumstances where the pilot may be nervous and may have had to concentrate on flight control), the pilot shall be at a level where communication with the ATC facilities can be made properly. ・The pilot shall be at a level where the pilot is able to understand the behavior of other aircraft by monitoring the tower control frequency. (2) The company issued a document entitled "Safety Actions to Prevent Runway Incursions at Kohnan Aerodrome" and retrained Student Pilot A in radio communications with ATC facilities and others, informing student pilots and flight crew members that they should be sure to do the following. ・Write down the aerodrome information obtained before departure, if possible, to avoid misunderstandings. ・In the event of any ambiguity in the information provided by the Flight Service, make sure that it is reconfirmed. ・The training information for other aircraft at Kohnan Aerodrome should be obtained to ensure that the first solo flight does not overlap with other aircraft.

Attachment

Severity Classifications of Runway Incursions

Severity classifications described in ICAO "the Manual on the Prevention of Runway Incursions" (Doc 9870) are as described in the table below.

Table 6-1 Severity classification scheme

Severity classification	*Description*** 1
A	*A serious incident in which a collision is narrowly avoided.*
B	*An incident in which separation decreases and there is significant potential for collision, which may result in a time-critical corrective/evasive response to avoid a collision.*
*C***2	*An incident characterized by ample time and/or distance to avoid a collision.*
D	*An incident that meets the definition of runway incursion such as the incorrect presence of a single vehicle, person, or aircraft on the protected area of a surface designated for the landing and take-off of aircraft but with no immediate safety consequences.*
E	*Insufficient information or inconclusive or conflicting evidence precludes a severity assessment.*

**1 See the definition of "incident" of Annex 13.

**2 Shaded to show the pertinent classification of the serious incident.