

AI2018-4

**AIRCRAFT SERIOUS INCIDENT
INVESTIGATION REPORT**

**PRIVATELY OWNED
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June 28, 2018

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.

Kazuhiro Nakahashi

Chairman

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.

AIRCRAFT SERIOUS INCIDENT INVESTIGATION REPORT

LANDING ON THE ENGAGED TEMPORARY RUNWAY
BY THE OTHER AIRCRAFT
AT TEMPORARY AIRFIELD OF AKENO SKY SPORTS CLUB,
CHIKUSEI CITY, IBARAKI PREFECTURE, JAPAN
AT AROUND 10:38 JST, AUGUST 13, 2017

1. PRIVATELY OWNED AIRCRAFT
CESSNA 172 H RAM, JA3353
2. PRIVATELY OWNED AIRCRAFT
SAKAMOTO SS-9 (EXPERIMENTAL, 2 SEATS), JX0157

May 25, 2018

Adopted by the Japan Transport Safety Board

Chairman	Kazuhiro Nakahashi
Member	Toru Miyashita
Member	Toshiyuki Ishikawa
Member	Yuichi Marui
Member	Keiji Tanaka
Member	Miwa Nakanishi

1. PROCESS AND PROGRESS OF INVESTIGATION

1.1 Summary of the Serious Incident	<p>On August 13 (Sunday), 2017, around 10:38 Japan Standard Time (JST; UTC+9hr; unless otherwise stated, all times are indicated in JST using a 24-hour clock), a privately owned experimental aircraft Sakamoto SS-9, registered JX0157, landed on the temporary airfield of the Akeno Sky Sports Club, Chikusei City, Ibaraki Prefecture while a privately owned Cessna 172 H Ram, registered JA3353, was about to start take-off roll.</p>
1.2 Outline of the Serious Incident Investigation	<p>The case corresponds to situation equivalent to a "Landing on a runway being engaged by other aircraft" in Clause 2, Article 166-4 of the Ordinance for Enforcement of the Civil Aeronautics Act of Japan (Ordinance of the Ministry of Transport, No. 56 of 1952) and is classified as a serious incident.</p> <p>On August 16, 2017, the Japan Transport Safety Board (JTSA) received a serious incident notification, and then designated an investigator-in-charge and one other investigator to investigate the serious incident.</p> <p>An accredited representative of the United States of America, as the</p>

	State of Design and Manufacture of JA3353, the aircraft involved in this serious incident, participated in the investigation. Comments were invited from parties relevant to the cause of this serious incident and the relevant State.
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2. FACTUAL INFORMATION

<p>2.1 History of the Flight</p>	<p>According to the statements of the Pilot (hereinafter referred to as “the Pilot A”) of privately owned Cessna 172 H Ram, registered JA3353 (hereinafter referred to as “Aircraft A”), the Pilot (hereinafter referred to as “the Pilot B”) of privately owned experimental aircraft Sakamoto SS-9, registered JX0157 (hereinafter referred to as “Aircraft B”) and witnesses, the history of the flight up to the time of the serious incident is summarized below;</p> <p>On the previous day, around 18:00, the Pilot A arrived at the temporary airfield of the Akeno Sky Sports Club, Chikusei City, Ibaraki Prefecture and stayed overnight in a nearby hangar. On his arrival, the Pilot A confirmed the temporary runway to be clear of any other aircraft or vehicle both in and out of the zone. Before 9:00 on the following day, the Pilot A moved the Aircraft A out of its hangar to the temporary runway and prepared for the flight. At 10:30, with the Pilot A seated in the left, the Aircraft A took off the temporary runway (hereinafter referred to as “Runaway 16”) from the north-northwest to south-southeast direction to conduct three practice flights in the traffic pattern. Since the Pilot A of the Aircraft A had planned to land every time he flew, at 10:36, he landed on the Runway 16 as the first time. After the landing, the Aircraft A was taxiing on the west side of the temporary runway and when the Aircraft A entered the temporary runway, he stopped at the threshold with its nose aligning to the take-off direction. The Pilot A checked instruments for the next flight and when he was about to start take-off roll for the next flight, he noticed Aircraft B, which was painted white and blue, was flying overhead, slightly on the right side of his aircraft, and at 10:38, it landed on the ground at about 20 meters ahead of his aircraft. The Pilot A had not been aware of the existence of the Aircraft B.</p> <p>Since the Aircraft B moved out of the temporary runway and stopped on the east side after the landing, the Pilot A taxied his aircraft to approach the Aircraft B for confirmation. When he found the indication “JX” (experimental aircraft) on the</p>
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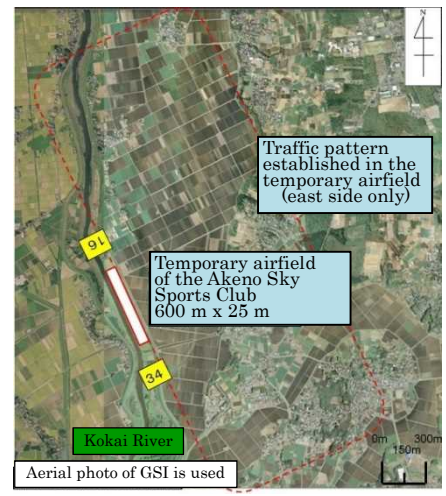




Figure 1: Map of the area of the temporary runway of the temporary airfield

aircraft, he judged that the Aircraft B was not equipped with radio and could not use aircraft telecommunications system, and also he judged that Aircraft B did not intend to take-off, the Aircraft A returned the take-off position again, and at 10:40, took off from the runway 16 as the second flight. At 10:42, while the Aircraft A was flying in the east side downwind leg in the traffic pattern, the Pilot A confirmed that the Aircraft B took off and flew southeast direction. After the flight, the Pilot A talked with the witnesses and considered that this event fell under the category of aircraft serious incident and reported to the Civil Aviation Bureau on the next day.

On the previous evening, the Pilot B transported the Aircraft B by land and carried it in the open space located on the south of the temporary airfield and after attaching the main wings to the aircraft fuselage, he went home leaving the aircraft behind. At around 9:00 on the following morning, the Pilot B conducted jump flight for about ten times in the temporary airfield, and then, he planned to fly neighboring area centering on the temporary airfield from the north to south along the Kokai river. At around 10:00, when the Pilot B took off from the temporary airfield and attempted to fly over the temporary airfield from the south to north, he confirmed the Aircraft A flying ahead of his aircraft in the east traffic pattern. Following the Aircraft A, the Aircraft B flied at a distance of about 500 meters or more, and then, flied over the Aircraft A which landed earlier, and commenced a right turn and flied back to the north-north west side along the Kokai river at an altitude of about 300 feet, and after commencing a right turn again for landing, the Aircraft B approached the temporary airfield. When he approached the temporary airfield, since Aircraft A stopped with its nose aligning west outside of the temporary runway (east side), the Pilot B determined it was safe and landed. After confirming that the Aircraft A took off, the Aircraft B took off again. At the time of this flight, the Aircraft B was not equipped with communication radio.

Witness A and witness B were watching the Aircraft A on the ground. When the Aircraft A first approached, Aircraft B suddenly appeared behind the Aircraft A, and when the Aircraft A landed, the Aircraft B flew low over the landed Aircraft A. After that, the Aircraft B flew via the west side of the temporary runway and returned to the Runway 16 side, and after commencing a turn at an extreme bank angle, it flew over the Aircraft A which was at the threshold of the temporary runway and landed in front of the Aircraft A. The witness B felt scared since the distance between the two aircrafts was only about 20 meters when the Aircraft B landed.

After landing, the Aircraft B exited the temporary runway and stopped. After that, following the take-off of the Aircraft A, the Aircraft B took off in the south east direction.

	<p>This serious incident occurred in the temporary airfield of the Akeno Sky Sports Club, Chikusei City, Ibaraki Prefecture, Japan(36° 13'42"N, 140°00'02"E), at around 10:38 on August 13, 2017.</p> <div style="display: flex; justify-content: space-around; align-items: center;">   </div> <div style="display: flex; justify-content: space-around; align-items: center; margin-top: 10px;"> <p>Photo 1: Aircraft A</p> <p>Photo 2: Aircraft B</p> </div>																														
2.2 Injuries to Persons	None																														
2.3 Damage to Aircraft	None																														
2.4 Personnel Information	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 70%;">(1) Pilot A</td> <td style="text-align: right;">Male, Age 65</td> </tr> <tr> <td>Private Pilot Certificate (Aeroplane)</td> <td style="text-align: right;">November 1, 1991</td> </tr> <tr> <td colspan="2">Pilot competency Assessment</td> </tr> <tr> <td>Expiration date of piloting capable period</td> <td style="text-align: right;">April 11, 2018</td> </tr> <tr> <td>Type rating for Single Engine (Land)</td> <td style="text-align: right;">December 3, 2007</td> </tr> <tr> <td>Class 2 aviation medical certificate, Validity</td> <td style="text-align: right;">March 23, 2018</td> </tr> <tr> <td>Total flight time</td> <td style="text-align: right;">1,602 hours 13 minutes</td> </tr> <tr> <td>Total flight time on the type of aircraft</td> <td style="text-align: right;">281 hours 00 minutes</td> </tr> <tr> <td>Flight time in the last 30 days</td> <td style="text-align: right;">36 minutes</td> </tr> <tr> <td colspan="2"> </td> </tr> <tr> <td>(2) Pilot B</td> <td style="text-align: right;">Male, Age 70</td> </tr> <tr> <td>Total flight time</td> <td style="text-align: right;">About 100 hours</td> </tr> <tr> <td>Total flight time on the type of aircraft</td> <td style="text-align: right;">0 hours 00 minutes</td> </tr> <tr> <td>Flight time in the last 30 days</td> <td style="text-align: right;">0 minutes</td> </tr> <tr> <td colspan="2">(The above flight times are in accordance with the statement of the Pilot B)</td> </tr> </table>	(1) Pilot A	Male, Age 65	Private Pilot Certificate (Aeroplane)	November 1, 1991	Pilot competency Assessment		Expiration date of piloting capable period	April 11, 2018	Type rating for Single Engine (Land)	December 3, 2007	Class 2 aviation medical certificate, Validity	March 23, 2018	Total flight time	1,602 hours 13 minutes	Total flight time on the type of aircraft	281 hours 00 minutes	Flight time in the last 30 days	36 minutes			(2) Pilot B	Male, Age 70	Total flight time	About 100 hours	Total flight time on the type of aircraft	0 hours 00 minutes	Flight time in the last 30 days	0 minutes	(The above flight times are in accordance with the statement of the Pilot B)	
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2.6 Meteorological	Weather observations by the Shimotsuma Regional Meteorological																														

<p>Information</p>	<p>Observatory , located about 8 km south-west of the temporary airfield, at around the time of the serious incident were as follows: 10:30 Southeasterly wind at 2.5 m/s, Temperature 27.9 °C, Precipitation 0 mm</p>
<p>2.7 Permission under Civil Aeronautics Act</p>	<p>(1) Aircraft A With regard to this flight, necessary permission was obtained.</p> <p>(2) Aircraft B With regard to this flight, the pilot did not acquire the permissions required by Civil Aeronautics Act (Act No. 231 of 1952) Article 11 Clause 1 proviso, Article 28 Clause 3 and Article 79 proviso.</p>
<p>2.8 Additional Information</p>	<p>(1) The description of the temporary airfield The temporary airfield had a temporary runway with a length of 600 m and a width of 25 m and the entire surface of the site was covered by lawn and it is provided on the riverbed. The size of the temporary runway is prescribed by the rules of the flight club, but there is no sign or other indication on the ground.</p> <p>According to the Pilot A and the witnesses, the position of each witness was about 10 m away from the temporary runway.</p> <p>(2) GPS Records According to the record of GPS built in the mobile phone which the Pilot A brought in the cabin, the Aircraft A conducted take-off and landing on the Runway 16 three times on temporary airfield and used the east traffic pattern.</p> <p>(3) Information of the Aircraft B According to the Pilot B, from the United States, he purchased the Z42 series aircraft manufactured by Zlin Aircraft on the Internet at the end of the 2016, however, only the parts list was included as manual documents for the aircraft. In addition, the flight he conducted at the time of the occurrence of this serious incident was his first flight including jump flights.</p> <p>The procedures for the acquisition of aircraft registration and identification mark pursuant to the standard of Article 11 Clause 1 proviso of the Civil Aeronautics Act, “permission for performing test flights by experimental aircraft” were followed.</p> <p>(4) The rules provided by the club The club to which the Aircraft A and the Pilot A belong provides the following management rules of the temporary airfield and aircraft operation management rules:</p>

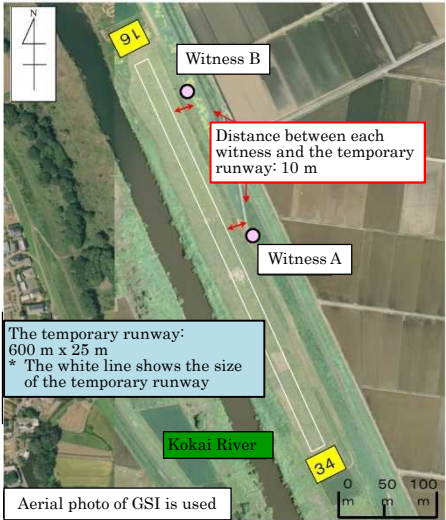


Figure 2: Situation of temporary airfield site and positions of witnesses

	<p>(Excerpt)</p> <ul style="list-style-type: none"> - Those who wish to use the temporary airfield for take-off, landing or stop of the aircraft shall submit an application for permission to use it in advance and obtain permission from the president of the club. - Those who wish to use the facilities shall obtain permission required by the proviso of Article 79 of the Civil Aeronautics Act in advance. - When attempting to land next to the other aircraft's take-off, the aircraft shall not enter the final approach course for landing before the preceding aircraft takes off and flies out of the end of the temporary runway. <p>The Aircraft B and the Pilot B did not belong to the club and did not obtain permission to use the temporary airfield.</p> <p>(5) About thorough permission acquisition</p> <p>The Civil Aviation Bureau of the Ministry of Land, Infrastructure, Transport and Tourism (hereinafter referred to as "JCAB ") has been striving to make the importance of obtaining permission for test flights for ultralight planes and others including experimental aircrafts thoroughly known by aviation-related organizations, and most recently, JCAB made an effort to make obtaining permission thoroughly known again in August 2015, which included the following contents:</p> <p>(Excerpt)</p> <ul style="list-style-type: none"> - Make sure that there is no difference between the items that have been reported for application to obtain permission and the aircraft actually used for the flight, the pilot, the flight range and the place of take-off and landing. - When a club or a person who has violated or likely to violate the Civil Aeronautics Act such as making an unauthorized flight is known, such fact must be promptly reported to JCAB. <p>Furthermore, JCAB is making efforts to be thorough on compliance with safety regulations of ultralight planes and others by posting information on its website.</p>
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3. ANALYSIS

3.1 Involvement of Weather	None
3.2 Involvement of Pilots	Yes
3.3 Involvement of Aircrafts	None
3.4 Analysis of Findings	<p>(1) The description of the flight which was classified into a serious incident</p> <p>According to the statements of the Pilot A and the witnesses, as well as records from the GPS brought in the Aircraft A, it is highly</p>

probable that the Aircraft A conducted its first landing at 10:36. After the landing, it is probable that the Aircraft A was taxiing on the outside of the temporary runway (west side) to move to the position to start the take-off roll again and at around 10:38, it arrived inside of the temporary runway shown as 7 and 8 in the Figure 3 and prepared for take-off with its nose orienting to the take-off direction. According to the statements of the Pilot B, the Aircraft B landed on the temporary runway because the Aircraft A stopped outside of the temporary runway with its nose aligning to the west. However, as mentioned above, it is probable that the Aircraft B landed on the temporary runway where the Aircraft A was preparing for the next flight and it is somewhat likely that the Pilot B visually confirmed the Aircraft A when the Aircraft A was facing the west in the vicinity of 6 and 7 in the Figure 3. Regarding with this, since the Pilot B was not a member of the club and did not have accurate understanding of the characteristics of the temporary airfield specified in the rules of the club, it is probable that the pilot considered that the position where the Aircraft A stopped was outside of the temporary runway. While the Pilot of the Aircraft B did not obtain permission from the club and did not understand the rules of the club, he conducted landing on the temporary airfield which was used by the Aircraft A and the landing was made very close to the Aircraft A, and since it was probable that depending on the movement of the Aircraft A the situation would have been more dangerous, the Aircraft B should not land on the runway.

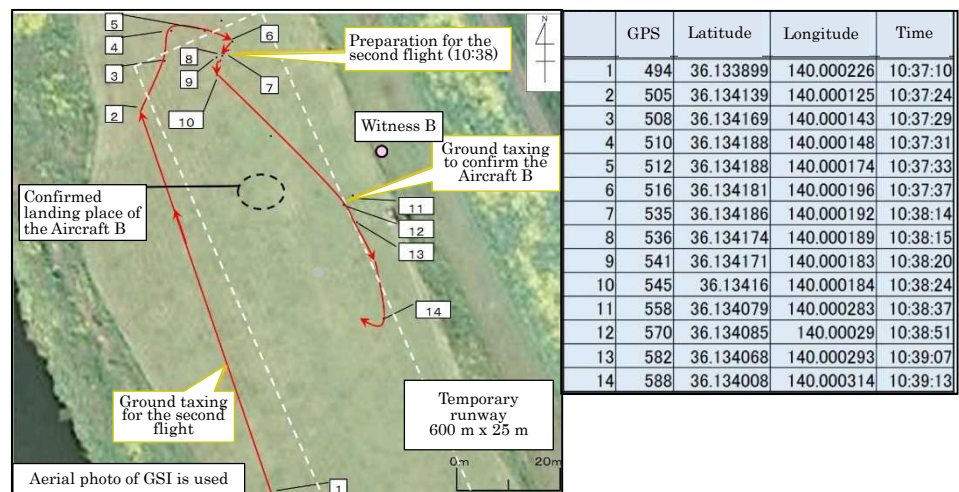


Figure 3: Estimated ground roll route by the GPS data of the Aircraft A (excerpt)

(2) Compliance with laws and regulations

For Aircraft B, which was an experimental aircraft, the aircraft registration and identification mark were acquired, however, it did not have permission to be used for flight pursuant to Article 11 Clause 1 proviso of the Civil Aeronautics Act. In addition, the Pilot B did not have permission for aircraft operation pursuant to Article 28 Clause 3 of the Civil Aeronautics Act, and permission required for landing and take-off of the temporary airfield pursuant to Article 79 proviso of the Civil

	<p>Aeronautics Act. In order to obtain individual permission, it is necessary to confirm matters including safety of the aircraft and take-off and landing operations in the temporary airfield based on the permission standard and phased confirmation of the skills of the pilot. The Aircraft B and the Pilot B who had not obtained individual permission should not have executed the flight because it was not confirmed that they satisfied standards. It is necessary for pilots to understand the purpose of the Civil Aeronautics Act and recognize the importance to comply with laws and regulations. In addition, pilots and related organizations who fly aircrafts such as ultralight planes and others must be thorough on reporting to JCAB when unauthorized flight is confirmed.</p>
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4. PROBABLE CAUSES

<p>It is probable that this serious incident was caused by the landing of the Aircraft B on the temporary runway where the Aircraft A was preparing for take-off.</p>

<p>Regarding the fact that the Aircraft B landed on the temporary runway where the Aircraft A was preparing for take-off, it is probable that the Pilot B did not have accurate understanding of the characteristics of the temporary airfield and he considered that the Aircraft A stopped was outside of the temporary runway.</p>
