

AA2016-8

**AIRCRAFT ACCIDENT  
INVESTIGATION REPORT**

**PRIVATELY OWNED  
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**September 29, 2016**

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.

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 ACCIDENT INVESTIGATION REPORT

**PRIVATELY OWNED  
SCHWEIZER 269C-1 (ROTORCRAFT), JA7926  
FUSELAGE DAMAGE BY CONTACT WITH GROUND  
HOSOKAWA-CHO, MIKI CITY, HYOGO PREFECTURE, JAPAN  
AT ABOUT 13:35 JST, JUNE 7, 2015**

August 26, 2016

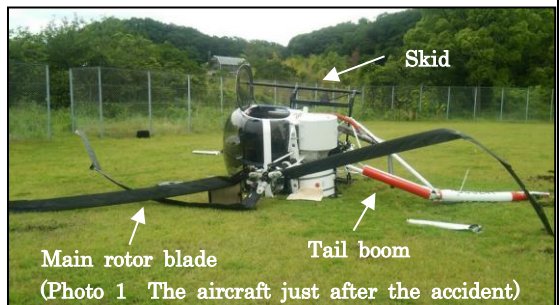
Adopted by the Japan Transport Safety Board  
Chairman Kazuhiro Nakahashi  
Member Toru Miyashita  
Member Toshiyuki Ishikawa  
Member Sadao Tamura  
Member Keiji Tanaka  
Member Miwa Nakanishi

## 1. PROCESS AND PROGRESS OF THE INVESTIGATION

1.1 Summary of the Accident	On Sunday, June 7, 2015, a privately owned Schweizer 269C-1, registered JA7926, took off from Maishima Heliport for a leisure flight, thereafter its attitude became unstable during hovering in a resort facility in Miki City, the fuselage came into contact with the ground, and was overturned and damaged. One passenger was seriously injured.
1.2 Outline of the Accident Investigation	On June 7, 2015, the Japan Transport Safety Board designated an investigator-in-charge and an investigator to investigate this accident. A representative of the United States as the State of Design and Manufacture of the aircraft involved in the accident participated in this investigation. Comments were invited from parties relevant to the cause of the accident and the relevant State.

## 2. FACTUAL INFORMATION

2.1 History of the Flight	<p>According to the statements of the captain, the passenger and the witness, the history of the flight up to the accident is summarized as follows.</p> <p>On June 7, 2015 around 12:24 Japan Standard Time (JST, UTC+9 hrs), a privately owned Schweizer 269C-1, registered JA7926, took off from Maishima Heliport in Osaka City for a leisure flight with the captain on the right seat and Passenger A on the left seat. The captain planned to fly to a temporary helipad in Yamazoe Village, Nara Prefecture via</p>
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Miki, Amagasaki and Daito. In Miki, the captain intended to circle a few times over the resort facility where his friends visited.

After the captain circled twice in the sky, the captain hovered at a height of about 10-15 m above the ground. Although he understood that he must not make a landing with no permission, there was nobody in a ballpark in the resort facility, thus he made landing on the ballpark to let his friends ride.

The captain dropped off Passenger A in the ballpark, instead let Passenger B ride on the left seat, and flew around the ballpark for about five minutes.

The captain let Passenger C ride on the left seat and said to Passenger C that it was no problem to softly put its hand on a cyclic stick but do not touch rudder pedals.

Although Passenger C was afraid of height and took a negative attitude toward the ride, he could not refuse recommendations from surrounding people and decided to ride. Passenger C requested the captain to fly at a low altitude, pulled both legs toward himself so as not to touch the rudder pedals, put the left hand on a door frame of the left seat, and softly put the right hand on the cyclic stick.

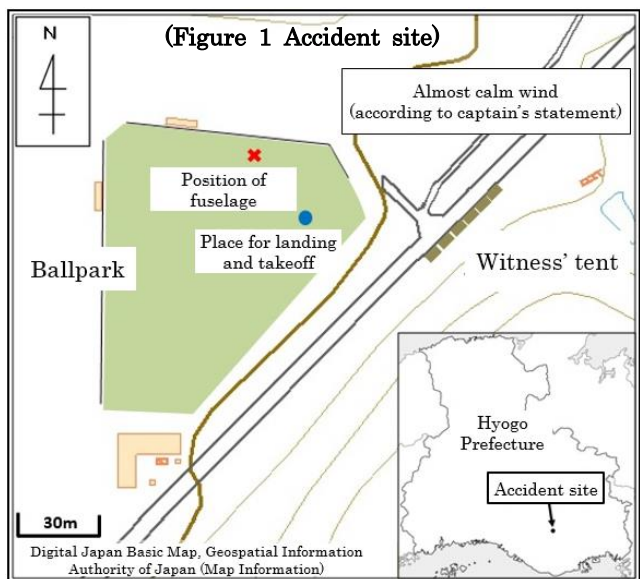
The captain hovered with the nose directed in the east at an altitude of 2-3 m, and then changed directions and moved in a lateral direction. Although Passenger C asked the captain to get him off, the captain seemed to be not understand the request. When the aircraft hovered, the captain thought that passenger C would be pleased and said to have a cyclic stick softly. While Passenger C had been softly putting his hand on the cyclic stick by that time, as the captain seemed to open his palm saying he would release his hold of the cyclic stick, Passenger C released the hold of the cyclic stick thinking that



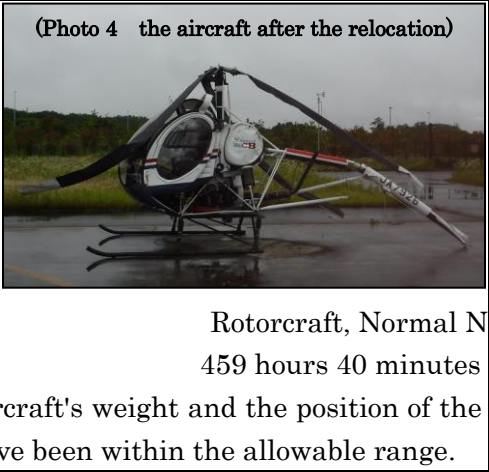
(Photo 2  
Skid impact mark)



(Photo 3  
Tail rotor impact mark)



	<p>he could not operate.</p> <p>The captain felt that the aircraft was unexpectedly nose-down and would crash into the ground in an attitude to head for the ground in front, thus fully pulled the cyclic stick toward him without operating the corrective pitch lever. Thereafter, the captain felt that the aircraft became in a nose-up attitude and the impact in the empennage, and realized that the aircraft was overturned with the left side down.</p> <p>According to the captain, he did not feel the abnormality in the aircraft until the accident.</p> <p>The witness sometimes saw the aircraft taking and landing from a tent set up in the east of the ballpark. The witness heard a big sound when looked away from the aircraft, and saw the aircraft nose-up and fell to the left when the witness turned their eyes back.</p> <p>The accident site was at the ballpark of the resort facility in Hosokawa-cho, Miki City, Hyogo Prefecture (34° 49' 10" N, 135° 03' 05" E), and the time and date of occurrence was around 13:35 on June 7, 2015.</p>
2.2 Injuries to Persons	Passenger C: Seriously injured
2.3 Damage to the Aircraft	<p>Extent of damage to the aircraft: Substantially damaged</p> <p>Fire outbreak: None</p> <ul style="list-style-type: none"> <li>• Three main rotor blades were damaged.</li> <li>• One main rotor control rod in the rear of the fuselage was bent.</li> <li>• The left side of the fuselage was damaged.</li> <li>• Cross tube in the rear was deformed.</li> <li>• Tail boom and tail rotor drive shaft were ruptured.</li> <li>• Tail rotor gear box fell off.</li> </ul>
2.4 Personnel Information	<p>Captain Male, Age 73</p> <p>Private pilot certificate (Rotorcraft) October 11, 1995</p> <p>Type rating for single-piston engine (land) October 11, 1995</p> <p>Class 2 aviation medical certificate Validity: August 11, 2015</p> <p>Total flight time (according to the statement of the captain)</p> <p style="padding-left: 100px;">About 1,000 hours 00 minutes</p> <p>Total flight time on the type of aircraft 31 hours 40 minutes</p> <p>Although the captain have not experienced flight for about 10 years, he resumed flight at the end of the previous year when he obtained the aircraft. When this accident occurred, he had not taken the Pilot Competency Assessment.</p>

2.5 Aircraft Information	<p>(1)Type: Schweizer 269C-1  Serial Number: 0015  Date of manufacture: December 15, 1995  Certificate of airworthiness: No.Dai-2014-429  Validity: November 6, 2015  Category of airworthiness: Rotorcraft, Normal N  Total flight time: 459 hours 40 minutes</p> <p>(2)When the accident occurred, the aircraft's weight and the position of the center of gravity were estimated to have been within the allowable range.</p>	<p>(Photo 4 the aircraft after the relocation)</p> 
2.6 Meteorological Information	<p>According to the statement of the captain, it was almost calm wind during the accident, which did not affect the flight. The wind direction and wind velocity are as follows, which were observed at Miki Automated weather station, Japan Meteorological Agency located about five kilometer southwest of the accident site:</p> <p>13:30 Southwest 2.8 m/s (max southwest 4.3 m/s)  13:40 South-southwest 3.0 m/s (max south 4.3 m/s)</p>	
2.7 Permission under Civil Aeronautics Act	<p>With regard to this flight, the captain did not acquire the permissions required by Civil Aviation Act Article 79 proviso (Landing and take-off in places other than aerodromes) and the Article 81 proviso (Flight at a height lower than the minimum safety altitude).</p>	
2.8 Additional Information	<p>Situation of the accident site</p> <p>The ballpark of the accident site was on the ground about five meter lower than the road, on with there was the witness' tent. The aircraft was overturned with the nose directed to the north and the left side of the fuselage down side. There was an impact mark of the tail rotor at the point located about 11 m southeast from the aircraft and two impact marks of skid were left in-between.</p>	

### 3. ANALYSIS

3.1 Involvement of Weather	None
3.2 Involvement of Pilots	Yes
3.3 Involvement of Aircraft	None

3.4 Analysis of Findings

(1) The situation up to loss of the aircraft attitude

It is probable that the captain performed flight maneuvers including direction changing or movement in horizontal directions; however, it is somewhat likely that the captain did not hold the cyclic stick for a moment during hovering so as to have Passenger C slightly experience to operate an aircraft.

It is probable that Passenger C was surprised that the captain seemed to have opened his palm saying would release hold of the stick during hovering, and passenger C released hold of the cyclic stick thinking that he could not operate by oneself. At this moment, it is somewhat likely that nobody controlled the aircraft and the cyclic stick moved, hence losing of aircraft attitude.

It is probable that the captain performed a conduct of forcing Passenger C to operate, who was not qualified and had no intention. Such a conduct without consideration for safety should not have been performed in any way.

(2) The situation up to overturn

It is probable that both released their hold of the cyclic stick, thus the aircraft was pitched down and lost height as if it was heading for the ground in front. It is probable that the captain felt the danger that it would crash into the ground, reflexively grabbed the cyclic stick, and fully pulled it toward himself, pitching up the aircraft. That time, it is probable that the corrective pitch lever was not held in an appropriate position. It is probable that the inappropriate operation for control system brought the empennage contact with the ground in the steep nose-up attitude while losing the altitude of the aircraft, thus damaging the empennage including a tail rotor.

Regarding the inappropriate operation, the captain had not experienced flight for about 10 years. Therefore, it is somewhat likely that the captain's skill declined and the skill was not confirmed by Pilot Competency Assessment when resumed flight with the aircraft.

It is probable that the aircraft, whose tail rotor was damaged, became uncontrollable, and overturned to the left side, then the aircraft was damaged and passenger C was injured.

(3) Strict compliance with rules

If an aircraft take-off or landing at places other than aerodromes, it is necessary to be permitted by the Minister of Land, Infrastructure, Transport and Tourism in advance pursuant to the proviso of Article 79, Civil Aeronautics Act. In addition, if an aircraft flight at a height lower than the minimum safety altitude, taking into consideration the safety of persons or objects on land or water as well as the safety of aircraft, it is necessary to be permitted by the Minister of Land, Infrastructure, Transport and Tourism in advance pursuant to the proviso of Article 81, Civil Aeronautics Act. However, the captain did not receive any of the permit for the baseball field and the sky above, which is the scene of the

	<p>accident.</p> <p>Therefore, it is highly probable that the safety to be ensured by permission for these was not confirmed and it could have affected the safety of persons or objects as well as the safety of aircraft.</p> <p>After April 1, 2014, any person having pilot competence certificate can not operate an aircraft unless the person passes the Pilot Competency Assessment under the provisions of Article 71-3, Civil Aeronautics Act, in order to ensure that the person keeps the pilot skill, knowledge of emergency procedure and the knowledge of revisions of Civil Aeronautics Act. However, the captain did not take the review test.</p> <p>It is necessary for a pilot to comply with laws and ordinances such as obtaining permission necessary in Civil Aeronautics Act in any cases, avoid dangerous behavior, ensure accident prevention, and always keep in mind safe flight.</p>
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4. PROBABLE CAUSES

In this accident, it is probable that when the nose of the aircraft was lowered caused by the act that lacks consideration for the safety of the captain and the altitude is lost, because the operation of the captain was inappropriate, tail of the aircraft came in contact with the ground, then the aircraft was damaged and the passenger was injured.