

AI2022-3

**AIRCRAFT SERIOUS INCIDENT
INVESTIGATION REPORT**

**PRIVATELY OWNED
JA 4083**

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



March 25, 2022

Adopted by the Japan Transport Safety Board

Chairperson TAKEDA Nobuo
 Member SHIMAMURA Atsushi
 Member KAKISHIMA Yoshiko
 Member MARUI Yuichi
 Member NAKANISHI Miwa
 Member TSUDA Hiroka

Company	Privately owned
Type, Registration Mark	Cristen Industries A-1 JA4083
Incident Class	Contact of wingtip with ground surface during landing Article 166-4, item (iii) of the Ordinance for Enforcement of the Civil Aeronautics Act
Date and Time of the Occurrence	At about 14:24 Japan Standard Time (JST: UTC+9 hours), November 27, 2021
Site of the Serious Incident	Menuma Gliding Field (temporary operation site) in Kumagaya City, Saitama Prefecture

1. PROCESS AND PROGRESS OF THE INVESTIGATION

Summary of the Serious Incident	The airframe leaned to the left during landing roll, and the left wingtip contacted with the ground surface. The pilot alone was onboard, and did not sustain injury.
Outline of the Serious Incident Investigation	An investigator-in-charge and an investigator were designated on November 27, 2021. Comments were invited from the Parties Relevant to the Cause of the serious incident and the Relevant State.

2. FACTUAL INFORMATION

Aircraft Information	
Aircraft type:	Cristen Industries A-1
Serial number: 1065	Date of manufacture: November 29, 1988
Airworthiness certificate: TO-2021-351	Validity: November 16, 2022
Personnel Information	
Pilot:	Age: 74
Commercial pilot certificate (Airplane)	March 16, 1973
Pilot competency assessment	

	Expiry of practicable period for flight: August 29, 2022
Class 1 aviation medical certificate	Validity: April 7, 2022
Total flight time	4,652 hours 57 minutes
Flight time in the last 30 days	14 hours 55 minutes
Flight time on the type of the aircraft	3,400 hours 05 minutes
Flight time in the last 30 days	14 hours 55 minutes

Meteorological Information

The wind observed in the gliding field with a windsock and an anemometer before the aircraft landed was northwesterly at velocity of approximately 6 m/sec. Besides, while the wind at 7 m/sec or so was prevailing on the day of the serious incident, a gusty wind at 10 m/sec or so was temporarily blowing, and wind direction occasionally fluctuated between the northwest and north by some 60°.

Event occurred and Relevant Information

(1) History of the flight

The aircraft took off from the Menuma Gliding Field towing a glider, and landed back at the gliding field after detaching the glider in the air. The aircraft touched down from the main wheel at the speed of approximately 50 mph using 30° flaps with engine outputs idle, and the tailwheel touched down as the aircraft decelerated. During landing roll, the pilot pointed the heading to the right to move to the parking position where a tow plane waits for the next operation, and continued rolling by inertia keeping the engine outputs idle without applying the brake. When the aircraft decelerated close to taxiing speed during rolling toward the parking position, the right wing suddenly floated, and the airframe leaned to the left and returned to a level attitude immediately thereafter. As the aircraft was in a landing configuration with the flaps downward at this time and the pilot recognized that the wind was an almost headwind, the aileron was held in neutral position. As the pilot did not recognize that the wingtip contacted with the ground surface when the airframe leaned, the pilot continued rolling and halted the aircraft at the parking position. After parking the aircraft, the pilot was informed by a witness that the left wingtip contacted with the ground surface.

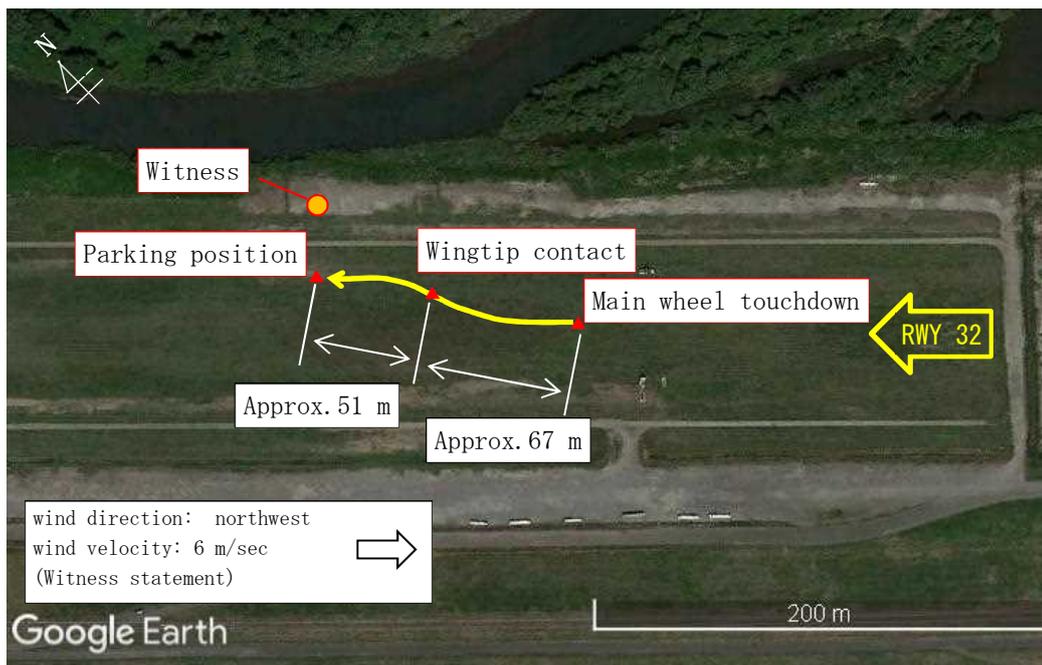


Figure 1 Estimated rolling route

(2) Information on damage to the aircraft

Paintings on the left wingtip surface were partially peeled off; however, damage such as rub marks due to contact with the ground surface was not determined.

(3) Information on landing strip

The gliding field was an unpaved landing strip compacted by roller with no remarkable roughness on the ground surface.

(4) Information on wind direction and wind velocity limitations

Flight manual of the aircraft contained following description regarding crosswind limitations.

Crosswind limitations are verified up to 15 mph. (15 mph = approximately 6.7 m/sec)

Besides, it was stipulated in the training procedures established by the gliding field that flight was suspended when a headwind exceeded 10 m/sec or crosswind component exceeded 4 m/sec in the gliding field.

3. ANALYSIS

The JTSA concludes that it is probable that the wind observed in the gliding field before the aircraft landed was an approximately 6 m/sec headwind, and wind direction and wind velocity were considered within the limitations. While a northwesterly wind at velocity of 7 m/sec or so was prevailing in the gliding field at the time of the serious incident, it is likely that the aircraft received a gusty wind from the right direction due to fluctuating wind direction and wind velocity during rolling since the wind direction on the day of serious incident temporarily fluctuated between the northwest and north and the gusty wind of 10 m/sec or so was occasionally blowing.

The JTSA concludes that it is probable that, when the tailwheel touched down, the airframe attitude was prone to become unstable during rolling influenced by the wind since the airframe was in an upward attitude, the angle of attack of the main wing increased, and the flaps were downward.

The JTSA concludes that it is likely that the aircraft was shaken by the gusty wind from the right direction during landing roll that caused the right wing to float and the aircraft to lean to the left, and the left wingtip contacted with the ground surface.

4. PROBABLE CAUSES

The JTSA concludes that the probable cause of this serious incident was likely that the aircraft was shaken by the gusty wind from the right direction during landing roll that caused the right wing to float and the aircraft to lean to the left, and the left wingtip contacted with the ground surface.