

4. Case Studies of Accidents

Based on what we have seen so far, let's take a look at accident cases. In the case studies, the causes are shown in red boxes, and the factors that probably contributed to the accidents are shown in orange boxes. Pay attention to not only the causes but also the factors, and think about what to do to prevent accidents.

Case 1: Improper Piloting

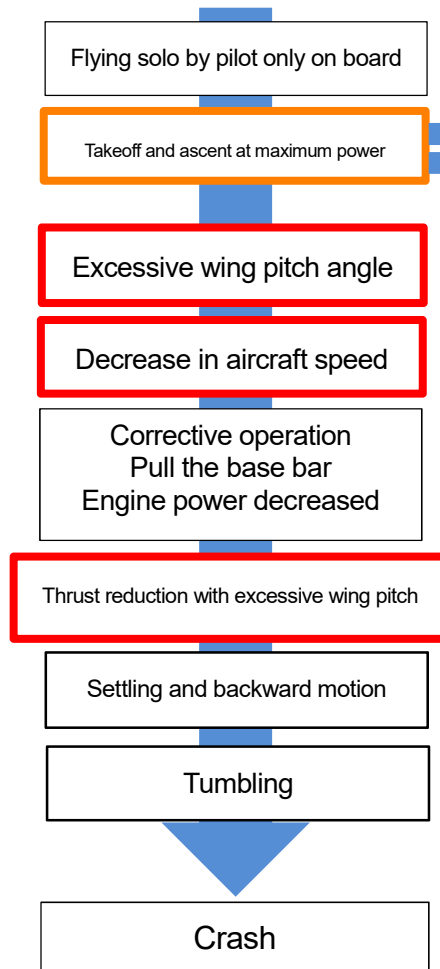
Date and Time of Occurrence: Around 15:25, September 11, 2010

Type: AEROS AEROS2-R912 (weight transfer controlled ultralight plane)

Summary of the Accident: While ascending after takeoff from Temporary Airfield A with only the pilot on board, the aircraft went into a tumbling* and crashed due to thrust reduction under conditions of excessive wing pitch angle. The airframe was severely damaged and the pilot was seriously injured.

*Tumbling is an unstable flight condition that is difficult to recover from and causes the aircraft to fall while continuously rolling forward.

Flight conditions at the time of the accident



Description in manuals issued by the manufacturer

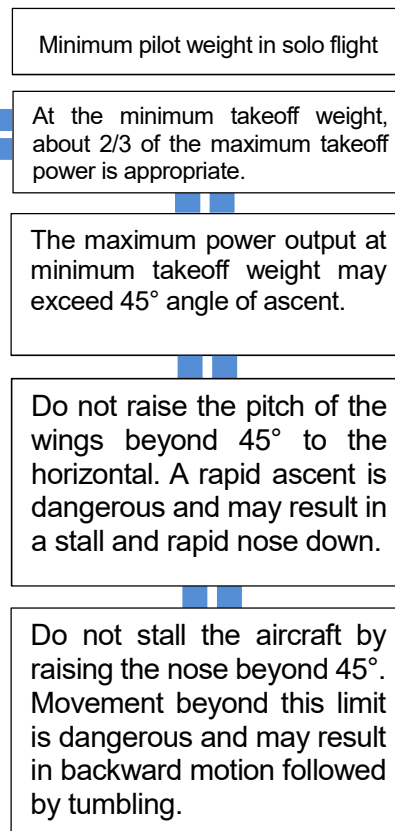


Fig. 1 Estimated flight path map

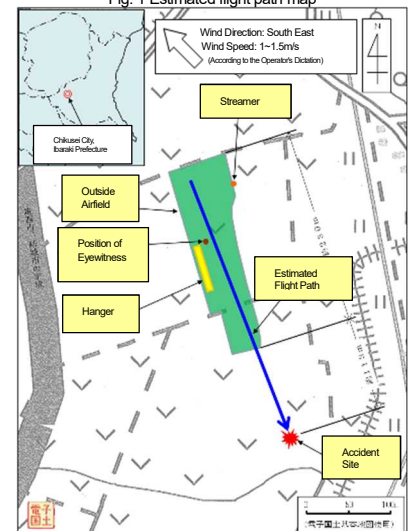
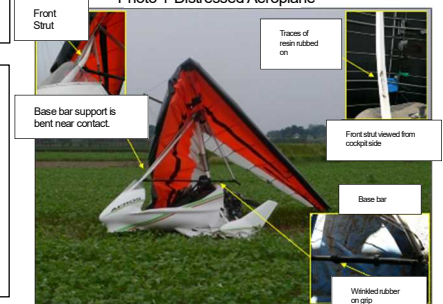


Photo 1-Distressed Aeroplane



【Probable Causes: Improper Piloting】
While ascending at the maximum engine power, the wing pitch became excessive and the speed decreased. The pilot pulled the base bar to correct the decrease in speed and subsequently reduced the engine power, which caused the aircraft to back off and rapidly drop the front of the wings, presumably resulting in tumbling and crashing.

【Factors: Lack of Knowledge, Skill, and Experience】

- It is presumed that the pilot, not fully understanding the meaning of the limitations and warnings in the manual issued by the aircraft manufacturer regarding the pitch angle and engine power for a single-passenger flight, took off and ascended at the maximum power that is restricted for use in a single-passenger flight.
 - In the case of a weight-transfer controlled ultralight plane, the tendency to turn the entire aircraft upward generally increases in response to growing thrust.
- Since the accident aircraft had an increased thrust due to the engine conversion, it is believed that the crew was unaware that this would result in excessive wing pitch angles.

Please view the accident investigation report for detailed findings. (issued on July 29, 2011)

<https://www.mlit.go.jp/jtsb/aircraft/rep-acci/AA2011-5-1-JR7423.pdf>