

Case 2: Weather (Wind)

Date and Time of Occurrence: Around 13:04, July 27, 2014

Type : Beaver RX550-R503L (rudder surface controlled ultralight plane)

Summary of the Accident : During a familiarization flight with only the pilot on board at Temporary Airfield B, the aircraft was hit by a strong right crosswind upon landing. Due to the weathervane effect*, the aircraft was suddenly deflected to the right and crashed on the grassy area outside the airfield when it made its go-around.

The airframe was severely damaged and the pilot was seriously injured.

*Weathervane effect refers to the tendency of the nose of an aircraft to try to match the wind direction of the relative wind.

Flight conditions at the time of the accident

Pilot operation and judgment

See Figure 2 for (1) to (8)

Winds are forecast to increase around 15:00. Black clouds developing to northwest.

Takeoff at 13:00

Flying down wind

RWY30 to final approach route

Aircraft deflected to the right.

The nose suddenly deflected to the right (1).
Weathervane effect due to strong right crosswind

Nose-up attitude near stall speed

Flying with the right wing tip grazing the trailer (4)

The aircraft tilts sharply to the left.(5)

Left wing tip (6) and the nose (7) grounded.

Crash(8)

Plan to fly over airfield traffic pattern one time only

Grasping the change in wind direction and deciding to land

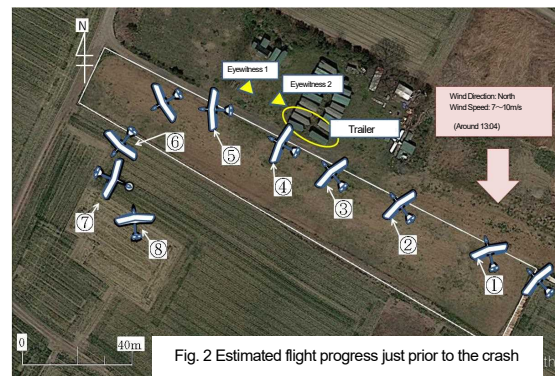
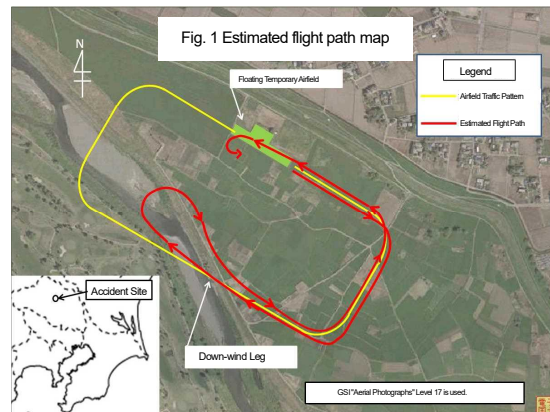
Step on left rudder → unable to correct properly
Considering go-around, but because the angle of approach was appropriate and altitude was decreasing, the approach was continued.

Step on left rudder → Nose direction not easily corrected (2)

Danger of colliding with a trailer
Decided to go-around

Increase engine power and pull back on the control stick (3)

Step heavily on left rudder to avoid collision



- When rudder is stepped heavily near the stall speed, the aircraft enters a spin in the direction of the rudder step.
- Since propeller rotation direction is clockwise when viewed from behind, nose tends to turn to the left due to increased engine power.

【Factors: Meteorology Effects, Improper Judgment, Flawed Safety Management】

- In a slow nose-up condition near stall speed, the pilot stepped heavily on the left rudder. It is probable that this was due to the pilot's attempt to avoid a collision with the trailer.
- The aircraft went close to the trailer, probably due to the pilot's inability to properly steer the aircraft, which was deflected to the right by a strong right crosswind.
- It is probable that the fact that the trailer was placed in an area which should have been free played a role in the go-around maneuver.
- Since large corrective maneuvers just before ground contact are dangerous, the pilot should have considered go-around when the nose deflected to the right.

【Probable Causes: Flight Characteristics, Improper Operation】

During landing go-around, the pilot increased the engine power at a low nose-up speed near the stall speed. In this situation, the pilot stepped heavily on the left rudder, which probably caused the aircraft to lose altitude and tilt sharply to the left and to have crashed.

Please view the accident investigation report for detailed findings. (issued on December 18, 2014)

<https://www.mlit.go.jp/jtsb/aircraft/rep-acci/AA2014-8-2-JR1096.pdf>