

## Case 4: Defects in Aircraft and Parts

Date and Time of Occurrence: Around 15:19, June 9, 2020

Type: Sanyo Tekko EX-03C PUFFIN-LT447 (rudder surface controlled ultralight plane)

Summary of the Accident: The aircraft crashed during a jump flight at a temporary airfield. Only the pilot of the aircraft was on board, and was deceased.

The airframe was severely damaged but did not catch fire.

Figure 1 Flight progress based on video analysis

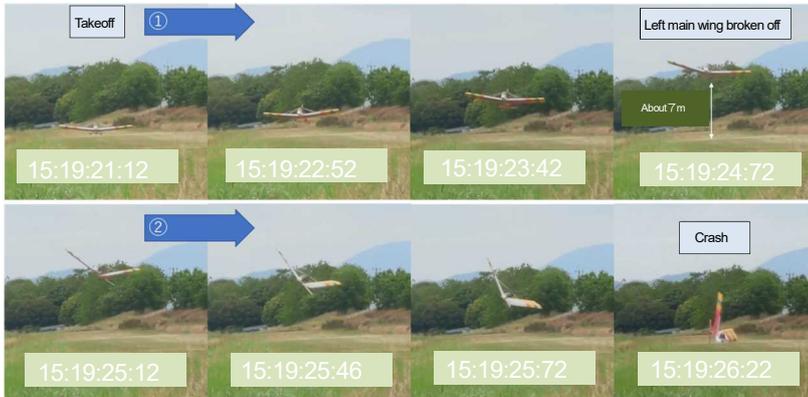
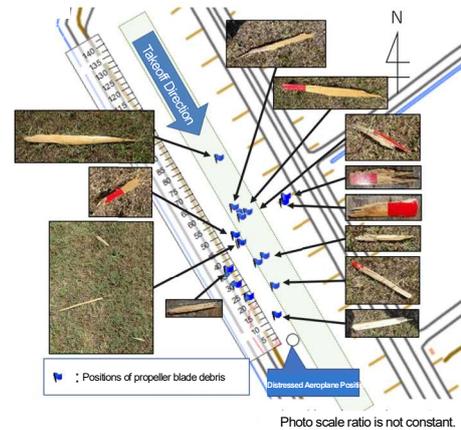


Figure 2 Distribution of Propeller Blade Debris



Flight situation at the time of the accident

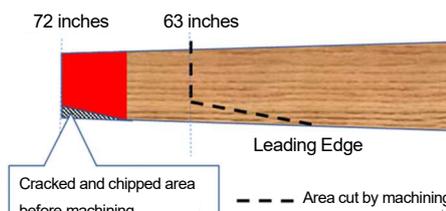
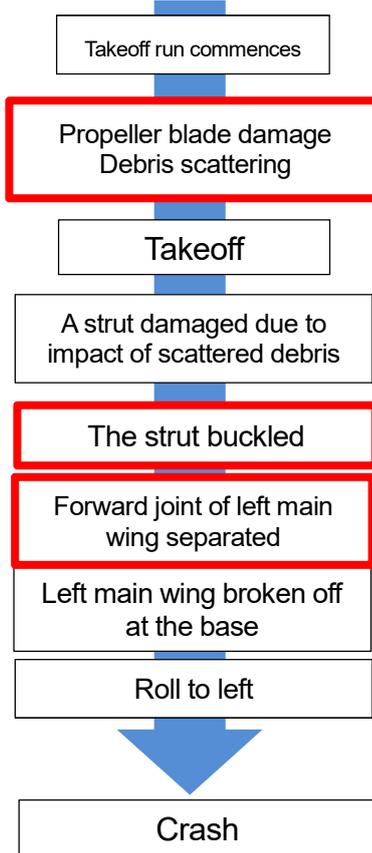


Fig. 3 Before and after propeller machining

Propellers found to be damaged were used by machining. Such machining not only drastically alters propeller performance, but may also significantly affect the strength and durability of propeller blades, and may cause internal delamination or other damage during machining. The user should not perform such machining and should request the propeller manufacturer to do so if necessary.

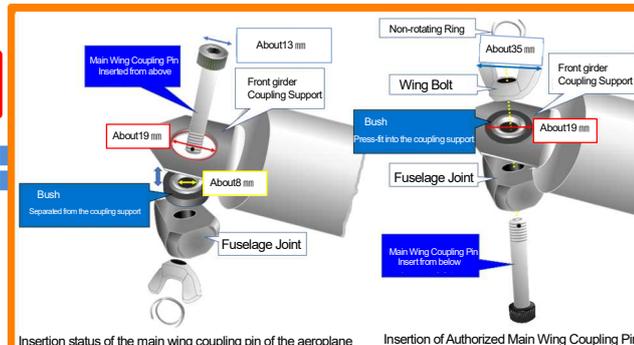


Fig. 4 Insertion direction of the main wing coupling pin is upside down

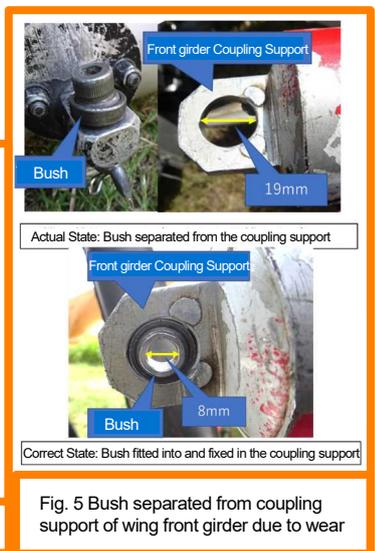


Fig. 5 Bush separated from coupling support of wing front girder due to wear

### 【Probable Causes: Failure of Airframe or Parts】

It is probable that the propeller blade was damaged after the takeoff run started, and some of the scattered debris hit the rear strut of the left wing, causing the strut to buckle and the forward joint of the left wing to separate during the subsequent ascent, resulting in the crash.

### 【Factors: Improper Inspection and Maintenance, Improper Assembly】

- The damage of the propeller blades may have possibly been caused by external damage or potential internal damage due to collision with foreign objects and the effects of machining to change the propeller diameter.
- The following factors are most likely to have contributed to the separation of the forward joint of the left main wing:
  - Insertion direction of the
    - (1) main wing coupling pin is upside down (improper assembly)
    - (2) Bush of front girder coupling of the main wing separated (improper inspection and maintenance)
    - (3) From (1) and (2), because the pin head became 13 mm and the

Please view the accident investigation report for detailed findings. (issued on April 22, 2021)

<https://www.mlit.go.jp/jtsb/aircraft/rep-acc/AA2021-3-3-JR0862.pdf>