

**Taiwan Aviation Master Activity Association JJ2258 Ultralight
Vehicle Crashed After Takeoff from Jiehao Activity Field
Occurrence Investigation**

Executive Summary

On December 9, 2024, at 10:55 Taipei time, a Storch CL ultralight vehicle operated by the Taiwan Aviation Master Activity Association, control number JJ2258, carrying one operator and one passenger, experienced engine failure at an altitude of approximately 100 feet shortly after taking off from Runway 26 at the Jiehao Airfield in Gaoshu Township, Pingtung County. Seven seconds later, the aircraft crashed approximately 340 meters west of the threshold of Runway 08. The vehicle sustained substantial damage, and both occupants were injured and transported to a hospital.

According to the Transportation Occurrence Investigation Act of the Republic of China, the Taiwan Transportation Safety Board (TTSB) is the independent agency responsible for investigating this occurrence. Agencies invited to participate in the investigation included the Civil Aeronautics Administration (CAA), the Taiwan Aviation Master Activity Association, and the engine manufacturer, Jabiru.

The final investigation report was published after being reviewed and approved during the 78th TTSB board meeting on September 23, 2025.

Based on a comprehensive analysis of the factual information, the investigation identified five findings and issued one safety recommendation.

The finding related to probable causes is as follows:

1. During the initial climb to approximately 100 feet, the occurrence vehicle experienced an internal engine mechanical failure. The circlip securing the gudgeon pin of cylinder no. 4 detached during engine operation, resulting in abnormal lateral movement of the gudgeon pin. While the engine continued running, the end of gudgeon pin scraped against the inner wall of the cylinder during the piston's reciprocating motion and struck the lower flange structure of the crankcase as the piston approached bottom dead center. As the conrod remained driven by the crankshaft's rotation, the piston body was torn apart and the conrod became bent and deformed. Eventually, the deformed conrod, during its erratic impacts at the bottom of the cylinder, punctured the upper casing of the crankcase and simultaneously embedding into the rotating crankshaft, which causing the engine to seize immediately.

The 2 findings related to risks are as follows:

1. Although no evidence directly links the engine maintenance condition of the occurrence vehicle to the displacement of the gudgeon pin in cylinder no. 4, the overall maintenance records and engine inspection findings indicate that maintenance practices were not fully performed in accordance with the current Jabiru maintenance manual. Discrepancies included non-compliance with the recommended oil change intervals, use of an engine oil type not specified in the manual, and incomplete maintenance recordkeeping. Such deficiencies in maintenance practices increase the likelihood of inadequate engine lubrication and cooling, abnormal combustion, or temperature imbalance, thereby posing potential risks such as reduced engine service time, decreased operating efficiency, or other systemic failures.

2. In the process of engine registration and subsequent communications, there was a lack of effective information verification and response between the vehicle owner and the engine manufacturer, Jabiru. This communication breakdown resulted in the owner not receiving follow-up information from the manufacturer.

The 2 other findings are as follows:

1. The operator of the occurrence vehicle held an ultralight vehicle instructor license issued by the Civil Aeronautics Administration (CAA) and met the medical fitness requirements stipulated in the Ultralight Vehicle Regulations.
2. The occurrence vehicle held a valid Ultralight Vehicle Airworthiness Certificate issued by the Civil Aeronautics Administration (CAA). The weight and balance were within the prescribed limits.

One safety recommendation was issued to the Taiwan Aviation Master Activity Association as follows:

1. Promote effective communication and information exchange between members and manufacturers, and encourage ultralight vehicle owners to complete the relevant registration procedures properly to ensure timely access to essential technical support and safety information provided by the manufacturer.

In the draft report of this occurrence investigation, an initial recommendation was proposed to the Taiwan Aviation Master Activity Association: to strengthen the integrity of maintenance practices performed by its members, ensuring that all maintenance work is carried out in

accordance with the manufacturer's specifications, and that maintenance records are completely, accurately, and thoroughly documented and verified.

Additionally, a recommendation was proposed to the Civil Aeronautics Administration (CAA), Ministry of Transportation and Communications: to oversee the Taiwan Aviation Master Activity Association in requiring all affiliated ultralight vehicle owners to fulfill their responsibilities for proper maintenance. This includes ensuring that all maintenance tasks are performed in accordance with the manufacturer's specifications and that relevant maintenance records are fully and accurately documented and verified.

On May 16, 2025, the CAA reported that, following the occurrence, it had implemented oversight measures with the Taiwan Aviation Master Activity Association and other ultralight vehicle associations to improve maintenance-related procedures.

In view of the fact that the identified risks related to maintenance practices have been appropriately addressed, the final investigation report will not issue further safety recommendations on this matter.