Executive Summary

1150307 Quicksilver MXL II Sport Ultralight Vehicle Crash in Gaoshu Township, Pingtung County

On March 7, 2026, a Quicksilver MXL II Sport ultralight vehicle, which had not been issued a certificate of airworthiness, was test-flown at an unauthorized ultralight activity site following assembly and preparation by maintenance personnel. At approximately 0900, the operator conducted a preflight inspection, followed by engine, taxi, takeoff, and landing tests at the site. After determining that the engine and flight control systems were functioning normally, the operator took off from the runway heading south. Shortly after becoming airborne, the engine experienced an abnormal condition. At approximately 1015, the operator performed a forced landing in a farmland area near the intersection of Tongxing Road and Guangfu Road in Gaoshu Township, Pingtung County. The ultralight vehicle sustained substantial damage, and the operator was injured.

In accordance with the Transportation Occurrence Investigation Act of the Republic of China, the Taiwan Transportation Safety Board (TTSB), an independent transportation occurrence investigation agency, conducted the investigation. The investigation team also included representatives from Civil Aeronautics Administration (CAA), Ministry of Transportation and Communications. The TTSB sent the investigation report to relevant authorities for comment, and it was subsequently reviewed and approved at the TTSB's 91st Board Meeting on 8 October, 2026.

The investigation identified 7 findings based on a comprehensive review of factual data and analyses and issued 2 safety recommendations to the relevant organizations.

I. Findings from the Investigation

Findings Related to Probable Causes

1. After takeoff, abnormal friction and localized high temperatures developed at the big-end bearing of the connecting rod serving the rear cylinder, generating metallic debris. Progressive wear and component impacts resulted in cascading damage to the piston, connecting rod, crankcase, and other engine components, causing a partial loss of engine power. The operator was unable to maintain altitude and consequently performed a forced landing.

Findings Related to Risks

1. Uneven application of sealant at the mating surfaces of the upper and lower crankcase halves may have compromised the crankcase's sealing integrity, increasing the risk of external moisture ingress into the crankcase during prolonged storage and subsequent corrosion of engine components.

2. The occurrence ultralight vehicle had not completed the registration and inspection procedures required by the Civil Aviation Administration (CAA) and had not been issued an ultralight vehicle inspection certificate.

3. The ultralight activity site from which the occurrence vehicle took off was not an authorized airfield for ultralight vehicle activities.

Other Findings

1. The qualifications of the occurrence ultralight vehicle operator and maintenance personnel met the requirements of the Ultra-Light Vehicles Regulations.
2. Although the mixing ratio of the lubricant used in the occurrence ultralight vehicle did not comply with the specifications in the manufacturer's manual, the use of the lubricant was unrelated to the occurrence.
3. Regarding the management of illegal ultralight vehicle activities and unauthorized ultralight activity site, the competent authority has established mechanisms for inspection, case tracking and monitoring, interagency coordination, and evidence collection in accordance with the safety recommendations issued by the TTSB over the years. The competent authority continues to implement relevant improvement measures.

II. Safety Recommendations

To Civil Aeronautics Administration, Ministry of Transportation and Communications

1. Strengthen the inspection and enforcement of violations involving ultralight vehicle activities to deter unauthorized ultralight vehicle operations.

To Pingtung County Government

1. Promptly take specific and effective measures in accordance with applicable laws and regulations to investigate and address unauthorized ultralight vehicle site and associated structures within its jurisdiction, to prevent or mitigate the risks to public safety posed by unlawful ultralight vehicle operations.