

Executive Summary

AJ2666 Ultra-light Vehicle Occurrence Investigation Report

The Aviation Safety Council (ASC) releases Final Report on investigation of a private ultra-light vehicle, model type Remos GX, control number AJ2666, departed from Runway 26 of airfield in Saijia, Sandimen Township, Pingtung County at 1230L to perform touch and go training on November 17, 2016. There were one operator and one trainee aboard.

The vehicle made the 1st touch and go training. At 1238, the vehicle made the 2nd touch and go on Runway 26. During the initial climb, the vehicle abruptly banked to the left with an over 45 degree left turn, the vehicle increased its left bank and turn prior to the side slip and the vehicle began to drop its altitude. The left wing tip and left main gear of the vehicle touched on the ground prior to impact. The vehicle sledged forward with a 180 degree turn and stopped on the grass field of Runway 26; the vehicle was substantial damaged and the 2 airmen on board sustained minor injury.

The Final Report was reviewed and approved by ASC's 59th Council Meeting on July 25, 2017. The conclusion and Safety Recommendations from the Final Report as follows,

Conclusion

The airmen were certificated and qualified in accordance with Civil Aeronautics Administration (CAA) Ultra Light Regulations. The airmen had certified medical licenses. There is no abnormal records been found in airmen's ground test, flight test and oral exam.

The vehicle maintenance program and inspection were followed and signed off in accordance with Civil Aeronautics Administration (CAA) Ultra-Light Regulations. The engine was operating at the time of occurrence. The engine EPR may not reach its maximum value. The weight and balance was within limitation.

The on board GPS flight track recording of the occurrence flight was intentionally deleted after the occurrence. The above recording was recovered by ASC investigators.

The air was stable around the occurrence area. A dust devil phenomenon arose around partial area due to uneven ground heating. Neither the time, location or size of this phenomenon affected the vehicle flight operation. However, from the investigation team' s calculation, there might be about 10 knots right wind near the runway area during the vehicle takeoff and landing phase.

After the ultra-light vehicle lifted off, the air speed decreased as a result of high climb rate and the maximum power had not been set. In the meantime, the stall speed was raised due to the increasing wing loading induced by the pilot' s high pitch maneuver during initial climb. Thus, the safety margin between air speed and stall speed was narrowed, and the controllability and stability of the vehicle was reduced. The airflow probably started to separate from left wing and affected the lift since the crosswind was coming from the right. It caused a left bank and further raised the stall speed of the vehicle. By the time the instructor took control, he felt that the vehicle was not controllable and the wings could not be leveled. The vehicle then continued to fall in stall condition.

The ultra-light vehicle entered a stall at low altitude in an unexpected condition. The instructor' s stall recovery maneuvers with respect to the rudder, column, and power control were not exactly in accordance with the corresponding procedure. Consequentially, the stall was not recovered in time, and the vehicle lost altitude and impacted the ground.

Safety Recommendations

To Civil Aeronautics Administration

Supervise the Activity Association to ensure all airmen have adequate ability of stall recovery concept and technique, check and correct deviate speed, altitude, configuration data during take-off and landing.

To the Activity Association

Enhance all airmen to have adequate ability, concept and technique of stall recovery. Prevent vehicles from entering into the abnormal situation at low altitude and during turn. Ensure airmen conduct stall recovery procedures in accordance with S.O.P.

Enhance all airmen of the Activity Association to check and correct speed, altitude, and configuration. Special notice and wider safety margin should be given to high risk phase during take-off and landing.

Follow the Activity Guide procedures to maintain and preserve occurrence site and evidences for investigation.

The full Final Report is in Chinese only and available for download at ASC

website: www.asc.gov.tw/