BEA
Bureau d'Enquêtes et d'Analyses
pour la sécurité de l'aviation civile
www.bea.aero
@BEA_Aero

SAFETY INVESTIGATION REPORT

Accident to the APCO Aviation THRUST M
identified **95-WG**
on 6 September 2021
at Trébrivan (Côtes-d'Armor)

Time	Around 19:45[1]
Operator	Private
Type of flight	Local
Persons on board	Pilot
Consequences and damage	Pilot fatally injured
This is a courtesy translation by the BEA of the Final Report on the Safety Investigation published in September 2022. As accurate as the translation may be, the original text in French is the work of reference.	

Loss of motor power, loss of control, collision with the ground

1 HISTORY OF THE FLIGHT

A resident from the commune of Trébrivan saw the paramotor flying less than one kilometre from his home. He heard the motor spluttering before the motor power markedly decreased a few moments later. According to this witness, the paramotor then entered a spin, as if the pilot had applied a strong input on the handles to tilt it. Its descent rate was fast. The witness lost sight of the paramotor as it passed under the treetops, prior to the collision with the ground.

2 ADDITIONAL INFORMATION

2.1 Pilot information

The 43-year-old pilot did not hold a microlight pilot certificate. He held a valid Part-66 aircraft maintenance licence applicable, in particular, to Boeing 777 and 787 aircraft.

The pilot had several years of paragliding experience.

2.2 Paramotor information

The paramotor comprised a THRUST M paragliding wing built by APCO Aviation. It was also equipped with a harness and a motor associated with a pusher propeller.

[1] Except where otherwise indicated, the times in this report are in local time.

The first identification card of the paramotor[2] was issued in 2007, and the last application for the renewal of the identification card was in August 2011. This card, issued by the French civil aviation safety directorate (DSAC) for the north, was valid from 11 August 2011 to 10 August 2013. No further application for renewal of this card was filed after its expiry date. The paramotor was then struck off the register as of 21 November 2013, upon the declaration of the person who owned the wing between 2007 and 2013. The DSAC has no further information regarding this paramotor after November 2013. The pilot thus acquired the wing after it was struck off the register.

2.3 Site and wreckage information[3]

The paramotor was lying in a field. It probably collided with the ground with a right bank angle.

The wing was not torn. The rigging lines and controls were continuous. The upper lines were entangled with the wing. The fuel tank was punctured by a motor component when the motor moved during the collision with the ground. The power cable of the motor spark plug was cut. The spark plug was wrapped in insulating tape (see Figure 1).

The propeller was intact, a consistent but inconclusive sign of a decrease in motor power (see Figure 2).

Figure 1: spark plug wrapped in insulating tape, cut power cable (Source: BEA)

Figure 2: propeller (Source: BEA)

[2] The elements described on a paramotor identification card are specific to a given wing, regardless of the type of trike, harness or motor.

[3] Due to the aircraft operating context (no microlight identification card and unlicensed pilot), the wreckage did not undergo a detailed examination.

2.4 Meteorological information

The weather conditions were anticyclonic, with surface pressures around 1,020 hPa.

At the Rostrenen (Côtes-d'Armor) automatic weather station located approximately 8 NM east of the accident site, the sky was clear to a few cumulus clouds (1 to 2 oktas) , and the visibility was greater than 10 km.

The wind was blowing from the east until 19:30, before coming from 050° five minutes later. The wind strength increased from 4 kt to 8 kt between 19:30 and 19:45, with gusts up to 15 kt from 19:40.

2.5 Paramotor flights without a microlight pilot certificate

Paramotoring is regulated to varying degrees in different countries. Some countries do not require any training or examination to fly a paramotor, which is then considered as free flight, nor do they require insurance or aircraft identification.

In France, a microlight pilot certificate is required to perform paramotor flights. Nevertheless, the French Microlight Federation (FFPLUM) identified that unlicensed pilots were performing flights, without it being possible to determine the exact number. However, the FFPLUM considers that these flights are marginal and specific to class 1 microlights, and that they probably take place in the context of individual short flights.

For experienced paragliders, flying a paramotor probably poses no difficulties. As regards these pilots, it is possible that not passing a microlight certificate for an activity similar to that of free flight may be explained by several factors, including the possible constraint that this regulatory obligation may represent, or the lack of knowledge of the difference in the regulatory framework that exists between:

- paragliding, a practice supervised by the French Federation of Free Flight (FFVL), which was delegated the authority by the Ministry responsible for Sports; and
- paramotoring, a practice supervised by the FFPLUM and under the joint authority of the Ministry responsible for Sports and the Ministry of Ecological Transition, which is responsible for Transport.

3 CONCLUSIONS

The conclusions are solely based on the information which came to the knowledge of the BEA during the investigation. They are not intended to apportion blame or liability.

Scenario

The microlight was struck off the register in November 2013 and the pilot did not hold a microlight pilot certificate.

In flight, the wing stalled asymmetrically at a time of the day when the wind strength had increased considerably in a short period of time.

The BEA investigations are conducted with the sole objective of improving aviation safety and are not intended to apportion blame or liabilities.