



## Accident to the COMCO IKARUS C42 - C identified 64ADG

on 30 September 2020

at Itxassou (Pyrénées-Atlantiques)

<sup>(1)</sup> Except where otherwise indicated, the times in this report are in local time.

<b>Time</b>	Around 15:45 <sup>(1)</sup>
<b>Operator</b>	Centre de vol à voile d'Itxassou
<b>Type of flight</b>	Glider towing
<b>Persons on board</b>	Pilot
<b>Consequences and damage</b>	Pilot fatally injured, microlight destroyed

This is a courtesy translation by the BEA of the Final Report on the Safety Investigation published in August 2021. As accurate as the translation may be, the original text in French is the work of reference.

## Evasive manoeuvre, loss of control, collision with terrain, fire, while being towed

### 1 - HISTORY OF THE FLIGHT

*Note: the following information is principally based on statements and FLARM data from the towed glider.*

The microlight pilot took off from Itxassou aerodrome to tow the Alexander Schleicher ASK21 glider registered F-CITS, with two pilots on board. While skirting the slope below Artzamendi summit, he came across a flight of vultures and made a sudden evasive manoeuvre by turning right and descending. Whilst the microlight then returned to a nose-up attitude and turned left, the glider pilot released the cable and turned in the opposite direction. The microlight's left turn, facing the slope, continued and became more pronounced. The microlight collided with the terrain during the turn and caught fire approximately 30 minutes after the collision. The glider turned around and landed on the Itxassou aerodrome.

### 2 - ADDITIONAL INFORMATION

#### 2.1 Examination of site and wreckage

The wreckage was found on the south-western slope of the Artzamendi mountain, about 150 m under the ridge.

The wreckage was completely destroyed by the fire. The microlight was intact when it collided with the ground. Only the continuity of the flight controls in roll and yaw could be verified. The engine was jammed; this was a result of the impact.

<sup>(2)</sup> It was a speleology rope.

<sup>(3)</sup> The French Glider Federation (FFVP) recommends the use of a cable longer than 50 m to reduce microlight sensitivity to glider deviations.

<sup>(4)</sup> Using the 70 kg standard weight for an equipped pilot.

The towing cable<sup>(2)</sup> was slightly less than 50 m<sup>(3)</sup> and was continuous and not equipped with a fuse pin. It was still attached to the microlight when the rescue team arrived but was detached before the investigators arrived.

## 2.2 Survivability - Medical and pathological information

Rescue personnel arrived at the accident site by helicopter approximately 30 minutes after the accident occurred. The wreckage was on fire. The autopsy concluded that the pilot of the microlight died on impact.

## 2.3 Aircraft information

### 2.3.1 Glider information

The glider was an Alexander Schleicher ASK21 with an empty weight of about 360 kg and a maximum allowable take-off weight of 600 kg. The estimated mass of the glider was approximately 500 kg<sup>(4)</sup>.

It was equipped with a nose hook for towing located in the front section.

### 2.3.2 Microlight information

The tug microlight was a Comco Ikarus C42 C with an empty weight of 292.4 kg. The maximum allowable take-off weight is 472.5 kg, restricted to 400 kg when towing a glider with a take-off weight of more than 400 kg.

It was equipped with a towing hook located at the bottom and behind the tail fin.

The microlight flight manual indicates that only an aeronautical-standard cable should be used and recommends the use of a cable between 40 and 60 m long. It specifies that if the actual ultimate load of the tow cable is greater than 300 daN, it must be equipped with a 300 daN fuse pin to protect the microlight and the glider.

The flight manual also states that a lateral deviation of less than 30° from the glider or a vertical deviation between + 30° (glider in the high tow position) and - 20° (glider in the low tow position) can be corrected by rudder and elevator control. Beyond these values, the tug pilot must release the cable.

## 2.4 Pilot information

The 77-year-old microlight pilot held a microlight pilot certificate issued in December 1996, as well as a glider tow rating issued in August 2014. He also held a glider pilot licence and a Private Pilot Licence - Aeroplanes (PPL(A)) as well as a glider tow rating, and a valid Class 2 medical certificate.

He had logged more than 300 flight hours in a microlight, 10 of which in this type in the last three months, exclusively in towing for several years. He had also logged more than 600 flight hours in a glider and more than 700 flight hours in an aeroplane.

The glider pilot at the controls at the time of the accident, who held a glider licence issued in 2010, had logged approximately 300 flight hours.

The second pilot of the glider, who held a glider licence issued in April 1999, had logged approximately 400 flight hours.

## 2.5 Meteorological information

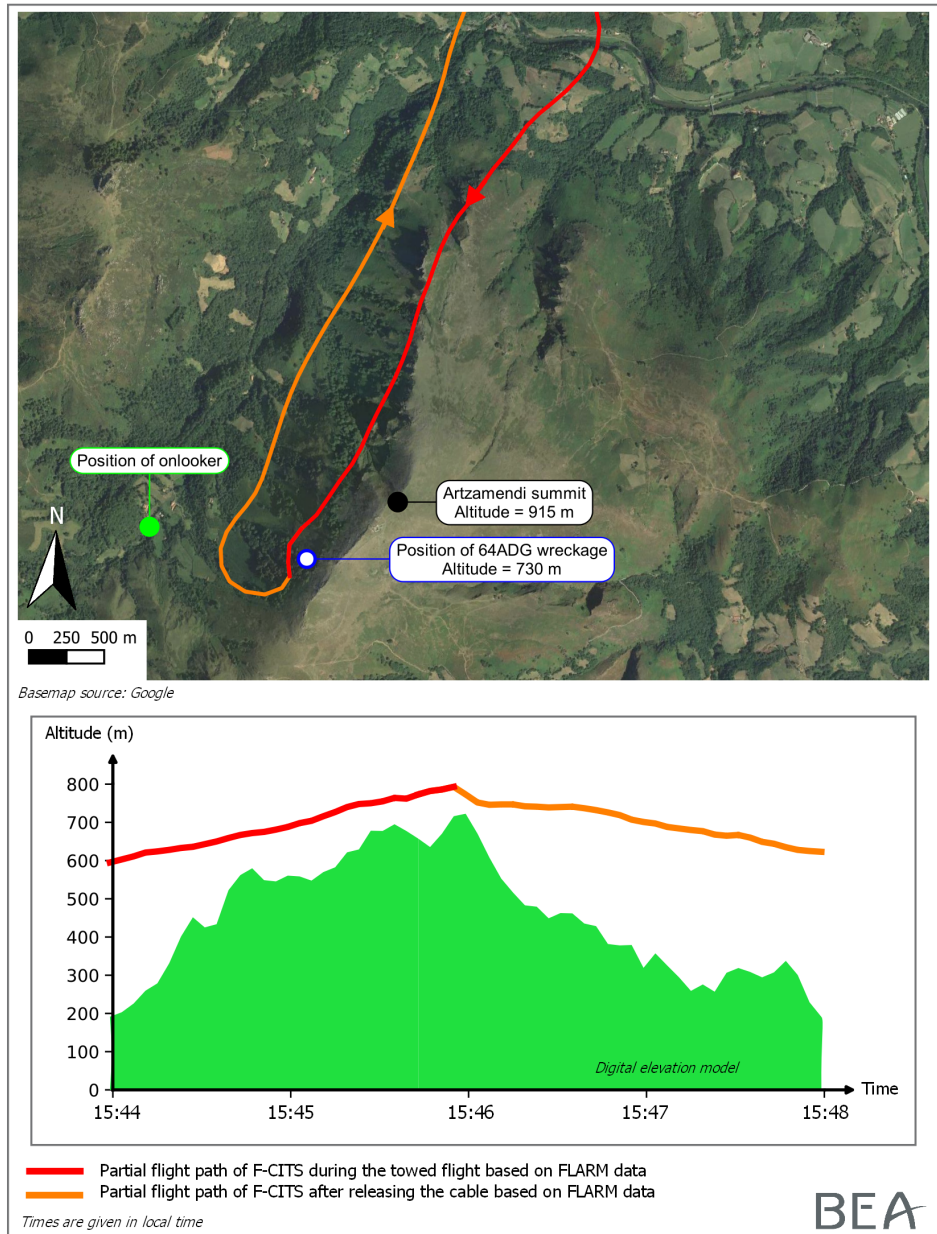
The meteorological conditions estimated by Météo-France at the accident site were as follows: wind of 10 kt from 220°, CAVOK, temperature 14 °C.

## 2.6 Read-out of computers

The microlight was not equipped with a computer<sup>(5)</sup>.

The glider was equipped with a FLARM computer. Reconstruction of its path was possible based on data from the computer read-out.

<sup>(5)</sup> It was scheduled to be equipped with a FLARM-type computer, but this computer had not yet been installed.



Glider's path

## 2.7 Statements

### 2.7.1 Onlooker

An onlooker to the accident indicated that his attention had been drawn to the sound of the microlight's engine. When he saw the two aircraft, it had seemed to him that the glider was slightly higher than the microlight. The microlight had then turned left with a steep bank angle and collided with the side of the mountain, still banked left, after completing a little less than 180°. A fire had started about 30 minutes after the accident and the witness had heard an explosion shortly afterwards.

The witness said that there were many vultures in the area and that the microlight had passed close by. He did not see when the cable was dropped.

### 2.7.2 Glider pilots

The pilot in the front seat was flying the glider at the time of the accident.

The pilots reported that they were flying westward along the slope of Mount Artzamendi, at an altitude of about 700 m, when they had seen three or four vultures between the tug and the terrain. About two seconds later, they had been surprised that the pilot of the microlight had performed a right-hand evasive movement with a bank angle they estimated at 30°, and then a steep nose-down action, without announcing it. He very quickly climbed again, the manoeuvre being similar to a pull-up, while the pilot flying the glider was about to follow the path. The cable had then slackened before becoming taut again and had pulled on the rear of the microlight. The pilot in the rear seat reported that he had seen the microlight return to horizontal flight and then turn sharply left. He had then told the pilot in the front seat to release the cable and turn right, which the pilot did. When they turned around, they saw the wrecked microlight on the terrain.

According to the pilots, the glider had remained in the safety envelope or "*convenience box*"<sup>(6)</sup>.

## 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

While towing the glider along the terrain below Artzamendi summit, the pilot of the microlight encountered vultures and instinctively performed an evasive manoeuvre by turning to the right and descending, without announcing it to the pilot of the glider. The latter was surprised by this abrupt manoeuvre but, seeing the microlight pilot perform a pull-up manoeuvre to try to return to the previous path, he did not change his path or release the cable.

The jolts on the cable, the lateral separation between the two aircraft, and the possible high tow position of the glider probably made it difficult for the pilot to control the path of the microlight. The microlight banked left and turned facing the terrain. The glider pilot then released the cable and turned in the opposite direction. The microlight's turn became more pronounced. Because of the small lateral margin to the terrain, the pilot was unable to avoid collision with the ground.

<sup>(6)</sup> Rectangular area around the tug in which the glider must be during towing, the horizontal limits of which, as seen from the pilot of the glider, are one-half the span of the tug's wing, measured on either side of the tug's wing tips, and the vertical limits of which are three metres above the tug's wings and five metres below.

<sup>(7)</sup> Report No 2133 of the Swiss Transportation Safety Investigation Board (STSB) pertaining to the accident to the MCR 01 ULC HB-WAK on 19 June 2007 explains this phenomenon.

### Contributing factors

The following factors may have contributed to difficulties in controlling the microlight after the evasive manoeuvre:

- No announcement of the evasive manoeuvre by the microlight pilot.
- Non-release of the cable by the microlight pilot and late release of the cable by the glider pilot.
- The fact that the glider was heavier than the microlight, making the combination unstable every time the cable slackened<sup>(7)</sup>.
- The length of the cable, shorter than what the FFVP recommends, increasing the microlight sensitivity to glider deviations.

It was not possible to verify whether the presence of fuse pins on the cable would have allowed it to detach before the microlight became difficult to control.

The following factor may have contributed to continuation of the left turn facing the terrain after the glider pilot released the cable:

- The difficulty for the pilot to quickly regain control of the microlight and make a turn in the opposite direction, given the proximity to the terrain.

### Safety lessons

Since a mid-air collision with a bird can result in a fatal accident, a pilot may have to perform a sudden evasive manoeuvre, such as turning and descending, thereby placing himself in a difficult situation. Indeed, the risks associated with the abrupt descent of the tug are to place the glider in a high tow position and to generate jolts on the cable due to the acceleration of the glider.

The FFVP made a recent reminder concerning the threats linked to the high tow position of the glider and the measures recommended to avoid this situation in the following videos:

- <https://securitedesvols.aero/productions/culture-aero/haute-tension>
- [https://www.youtube.com/watch?v=c3tpCoMEg\\_g](https://www.youtube.com/watch?v=c3tpCoMEg_g)

In particular, it reminds the tug pilot that he must be careful not to make any manoeuvre that could bring the glider into an unintended high or low tow position. It is strongly recommended that the tug pilot release the cable as soon as he has control difficulties, and that the glider pilot at the controls release the cable as soon as he loses sight of the tug.

Thus, it seems appropriate to consider releasing the cable as soon as the tug pilot begins an evasive manoeuvre before the aircraft find themselves in an irreversible situation.