

## Synopsis

On 3 July 2021, the AAI was notified by the Rescue Coordination Centre of an air accident of the above-mentioned aircraft. Having taken off from LKZA to carry out tandem parachute drops, while the aircraft was climbing, it started descending at the altitude of approx. 20 m. In this descent, the aircraft hit the ground at a small angle. The pilot sustained severe injuries. Three other persons were taken to hospital for examination and subsequent hospitalisation. One person was treated by a physician on site. The aircraft has been destroyed.

## Factual Information

Testimonies of the pilot, tandem parachutists, witnesses of the event, videofootage from the airport operator's cameras, videofootage taken by a witness, videofootage taken by a tandem pilot, assessed records of pilot's GPS, and Zábřeh RADIO logbook records were used to describe the air accident and related circumstances.

### Circumstances Preceding the Incident Flight

The pilot said that he came to the airport at approx. 08:00 ST on 3 July 2021. The aircraft had been already hauled out of hangar. He conducted a pre-flight check of the aircraft and documentation check. He filled aircraft tanks with some 130 litres of fuel. Approx. at 08:30, he started the engine, performed engine test run and one flight without passengers lasting 7 minutes. Having landed, the pilot stopped the aircraft at the point of parachutists' boarding and together with the paradrop controller went to the dispatcher of the Zábřeh RADIO service where they agreed on the operation method and performance of parachute drops. He also tested contact with the paradrop controller via a radio station on the frequency of 123.605 MHz.

The pilot started flight operation at 09:10. He carried out four flights and climbed to FL 100–110 where parachute drops took place. All the flights and parachute drops were completed without any complications. The pilot said that before the event flight (his sixth flight on that day), there were 70 litres of fuel in the tanks.

### Assessment of pilot's GPS

#### Final assessment and interpretation of GPS data

- The aircraft started taxiing from the area north of runway 10R/20L at LKZA at 11:11:50. It crossed the closed RWY 28R and was taxiing on the northern edge in the eastern direction. It stopped at the place of take-off from RWY 28L approx. 70 m from RWY THR. It began rolling up at 11:14:00.
- The aircraft speed was gradually increasing. After approx. 500 m, the aircraft started ascending at a speed of 124 km/h. In the climb, it reached the highest altitude of 817 ft, i.e. approx. 27 ft above the runway. At that point, the aircraft stopped climbing and went into a slight descent with an increase of ground speed to 138 km/h. It was maintaining the direction of movement at some 274° mag. Approximately before the end of RWY 28L, the aircraft continued to increase the descent rate and ground speed up to 149 km/h. In the last phase, it turned slightly to the right to 277° mag.
- The last section of data records shows that the vertical descending plane of the flight profile was intersecting with the plane of the terrain level at a distance of about 800 m

from the place of roll up. Deceleration from 149 km/h to stop was graphically estimated at about 40 m distance.

- The position on the ground without any movement at 11:14:45 corresponded to coordinates N49 55 43,1; E18 04 05,6 at the altitude of 791 ft, at a distance of approx. 950 m from the place of roll up on RWY 28L.

## Injuries to Persons

Tab. 2 – Summary of injured persons

Injury	Crew	Passengers	Other persons (inhabitants, etc.)
Fatal	0	0	0
Serious	1	2	0
Light/No injury	0	1/1	0/0

## Personnel Information

### Pilot

Male: aged 51 years

Flight Crew Licence:

ATPL(A), issued by the Irish Aviation Authority, valid

Qualification:

- B-737 300-900
- ME IR(MPA), Multi Engine Instrument Rating, Multi Pilot
- ME IR(SPA), Multi Engine Instrument Rating Single Pilot
- MEP (land), Multi Engine
- SE IR, Single Engine Instrument Rating
- SEP (land), Single Engine Pilot
- FI (A) MEP (land), SEP (land)

The pilot carried out air activity for an Irish commercial air transport operator.

Flight Crew Licence:

ATPL(A), issued by CAA of the Czech Republic, was valid until 9 December 2014

Qualification:

- PAR (Dropping of parachutists)

Flight Crew Licence:

FCL/SPL, issued by CAA, Czech Republic, valid

Qualification:

- Sailplane
- TMG

Medical certificate:

Valid, body weight: 108 kg

Total hours flown:

15,586 hours

Piloted types:

B377, Cessna150,152,172,172RG,177,182, Zlín Z42,43,142,143,242,126,226,326,526,726,

Aero L60,40, Piper PA28, C4, Antonov AN2, L410

Hours flown on Cessna aircraft: approx. 800 hours

Parachute drops performed in the past from aircraft: C172, C182, L60, AN2, L410

## Meteorological Information

### Weather

The sky was mostly clear with scattered clouds. Daily temperatures from 21 to 25°C. Night temperatures from 12 to 8°C. The wind at a speed of 2–6 m/s.

## Airport Information

### Zábřeh Airport

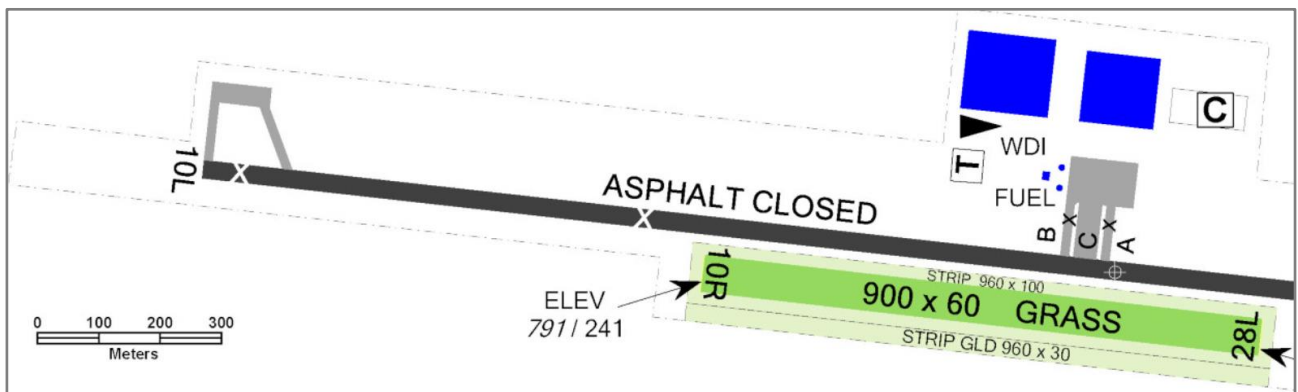


Fig. 10 – VFR Manual CR AD 4-LKZA-ADC.

## Flight Recorders and Other Means of Recording

The aircraft was not equipped with a flight recorder.

## Wreckage and Impact Information

The location of the air accident was the area of the airport and a field covered with 50 cm high maize in the direction of RWY 28, approx. 33 m in front of an unpaved local road perpendicular to the direction of take-off. After the first impact on the ground, the aircraft continued to move on the ground. It overturned behind the said road and stopped. The front of the aircraft fuselage was lying on the road with the nose heading opposite to take-off direction. The final position of the aircraft was about 57 m west of RWY10 THR. Coordinates 49°55'43''N, 18°04'05''E, altitude of 241 m.

### Aircraft wreckage

The aircraft has been completely destroyed. The overturned wreckage lying opposite to take-off direction was in one place. The engine, torn out of its bed, was found on the bottom side of the right half of the wing.



Fig. 12 – Aircraft wreckage behind an unpaved road

## Supplementary Information

### AAIU IR Notification

A notification of this air accident was sent to AAIU IR (Air Accident Investigation Unit Ireland) because the pilot was a holder of a Flight Crew Licence issued by the Irish Aviation Authority.

## Analyses

### Pilot

- He held a Flight Crew Licence issued by IAA, Irish Aviation Authority.
- He carried out air activity for an Irish commercial air transport operator.
- He had a valid FCL/SPL issued by CAA CR only with the qualification for Sailplane and TMG.
- His expired licence (valid until 9 December 2014) issued by CAA CR included the PAR qualification.
- He held a valid medical certificate.
- He stated his experience with flights involving parachute drops.
- On that day, he carried out five flights on the said aircraft before the event flight without any complications.
- During his sixth take-off, as the aircraft was taking off, his attention, which should have been paid to piloting, was distracted by handling the wing flap control lever. He stated it had been at the altitude of 20 m, but it was at the altitude of 27 ft as per assessed GPS data.
- He was handling the wing flap control lever at an altitude which was not safe for such an operation.

- During take-off, he became distracted for more than 5 seconds as per the videofootage of the second tandem pilot in the aircraft cabin, which shows that his head was lowered below the level of the upper edge of the instrument board.
- In this position, bent forward, owing to his bodily proportions, he most probably unwittingly exerted pressure on the control wheel to the front and to the right. He thus changed the trajectory of the aircraft from ascent to descent and to right roll.
- He failed to respond to the change of flight trajectory in time.

### **Other Persons on Board**

- Two tandem parachute groups consisted of four persons.
- Both tandem pilots had several years of practical experience with such method of parachute drops.
- Both clients were given a tandem parachute drop as a gift.

### **Aircraft**

- It had a valid certificate of airworthiness.
- It was adapted for parachute drops according to the operator's manual.
- As compared with the available documentation of C182 type, the exceeding of MTOW did not lead to exceeding of centre of gravity limits, but affected the aircraft performance characteristics.

### **Weather**

- It did not have a restrictive effect on flight performance.

### **AAIU IR Information**

A notification of this air accident was sent to AAIU IR (Air Accident Investigation Unit Ireland) because the pilot was a holder of a Flight Crew Licence issued by IAA (Irish Aviation Authority).

### **Air Traffic Safety**

Information on the medical condition of flight crew members is also important in order to maintain a certain level of air traffic safety. In this case, when a Flight Crew Licence is issued in another state than the medical certificate, neither the aviation authority issuing a Flight Crew Licence nor the air operator of the pilot concerned are likely to become aware of the medical condition of the flight crew member concerned. As a result, the same may carry out air activity even when not medically fit.

### **Conclusions**

#### **Pilot**

- He had a valid Flight Crew Licence for a flight with the aircraft type in question.
- His Flight Crew Licence did not include the PAR qualification.
- He did not have a valid ATPL(A) Flight Crew Licence issued by CAA, Czech Republic. The PAR qualification was recorded in this invalid licence.
- He was medically fit.

- On that day, he carried out one solo flight on the given aircraft and another four flights with parachute drops without any deficiencies or complications.
- During the sixth take-off for parachute drops on that day, he was handling the wing flap control lever (at the altitude of approx. 20 m according to his testimony, and approx. 27 ft according to GPS). The videofootage from the cabin camera shows that he was not paying sufficient attention to piloting during take-off.
- He unwittingly put the aircraft in descent with a right roll to which he failed to respond in time.

### **Aircraft Accident Causes**

The air accident was caused by pilot's unacceptable division of attention and inappropriate activity during take-off when he was paying attention to handling of the wing flap control lever and not fully to piloting during a low-altitude climb. While doing so, he unintentionally put the aircraft in descent which he failed to level off.

### **Safety Recommendations**

#### **ICAO**

Based on the facts mentioned in the Final Report (particularly in the Clause Air Traffic Safety), the AAIL CZ proposes to amend ICAO ANNEX 13, Attachment B, Notification and Reporting Checklist, Notification – Accidents and Serious Incidents, in such a way so that the state of occurrence would report the occurrence also to the state where the crew member was issued a Flight Crew Licence.