FINAL REPORT
of civil aviation safety investigation

CLASSIFICATION Accident

Owner CIRRUSS AVIATION SRL
Operator CIRRUSS AVIATION SRL
Manufacturer CESSNA
Aircraft CESSNA 182P / F-BXZI
Registration country France
Registration: F - BXZI
Location: Cluj Traian Dârjan Airfield
Lat. 46°46´44,67"N ; Long. 23°43´10,88"E
Date and time: 09.06.2017 / 15:15 LT (12:15 UTC)

No. A 17 – 12
Date: 20.10.2017
ACCIDENT DURING LANDING ON UNKNOWN AIRFIELD

<table>
<thead>
<tr>
<th>Aircraft</th>
<th>CESSNA 182P / F-BXZI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date and time</td>
<td>09.06.2017 / 15:15 LT (12:15 UTC)</td>
</tr>
<tr>
<td>Operator</td>
<td>CIRRUS AVIATION SRL</td>
</tr>
<tr>
<td>Flight type</td>
<td>Private</td>
</tr>
<tr>
<td>Persons onboard</td>
<td>Pilot</td>
</tr>
<tr>
<td>Victims</td>
<td>N/A</td>
</tr>
<tr>
<td>Pilot</td>
<td>Male, 39 years old, valid PPL license</td>
</tr>
<tr>
<td>Damage</td>
<td>nose landing gear broken, propeller blades twisted, engine cowling bent on the bottom</td>
</tr>
<tr>
<td>Location</td>
<td>End of runway 08, Cluj - Traian Dârjan airfield</td>
</tr>
<tr>
<td></td>
<td>Coordinates: Latitude: 46°46´44,67&quot; N</td>
</tr>
<tr>
<td></td>
<td>Longitude: 23°43´10,88&quot; E</td>
</tr>
</tbody>
</table>

1. HISTORY OF OCCURRENCE

On 09.06.2017, around 13.30 LT, the aircraft CESSNA 182P, registered F-BXZI, having only the pilot onboard, took-off from Strejnic – Ploiești aerodrome in a private flight to Cluj - Traian Dârjan airfield.

After almost two flight hours, the pilot reached the destination, where he contacted Cluj TWR by radio in order to obtain the necessary information and also the approval for entering into the aerodrome airspace.

An ULM aircraft just landed on the same airfield and its pilot informed that only around 400 m of the runway are operational due to the work-in-progress at runway surface. This info was sent using radio frequency TWR Cluj so it was received and confirmed also by F-BXZI pilot. Subsequently Cluj TWR repeated the information received and F-BXZI pilot confirmed that he understood the transmitted data and he will fly over the airfield.

After this radio transmission, F-BXZI pilot did not contacted again Cluj TWR. He aligned and landed on runway 08.

After touchdown, the aircraft rolled almost 150 m after which the pilot starts braking. The remaining distance did not provide sufficient space for the aircraft to stop in the airfield runway limits, so it jumped over the embankment on the runway end and over the access road, stopping in the opposite embankment (see fig.1 and fig.2).

The coordinates of the final position are the following:

- Longitude 46°46´44,67" N
- Latitude 23°43´10,88" E
- Airfield elevation: 315 m
After the impact, the pilot suffered no injuries, and the aircraft was damaged as follows (see figures 3 and 4):

- nose landing gear - broken
- both propeller blades - twisted
- engine cowling - bent on the bottom

Fig.3 – Twisted propeller blades
Fig.4 - Engine cowling bent on the bottom, broken nose landing gear
2. ADDITIONAL INFORMATION

2.1 Aircraft information

The aircraft Cessna 182 P (fig.5) is an aircraft with a single piston engine, the wing mounted over the cockpit and with a fixed tricycle landing gear. According to the aircraft documents, it had a valid airworthiness certificate, and its maintenance was performed according with the approved maintenance schedule.

The necessary landing distance is specified in the aircraft operation manual:

![Fig.5 Cessna 182 P](image)

![Fig.6 Table with landing distance](image)
Thus, the necessary distance calculated for landing roll, according to fig. 6, is 188 m (620 ft) + 40% due to grass runway, resulting a necessary landing distance of 263m (868 ft).

2.2 Airfield data

The airfield ”Traian Dârjan”, situated at 10 km from Cluj, having the reference coordinates 46°46’45”N/23°42’43”E, and the elevation 315 m. corresponds, according to the provisions of the Romanian Government Decision No. 912 from 25.08.2010, to other fields than certified aerodromes from/on which take-offs and landings of civil aircraft with the MTOW less than 5700 kg can be performed.

The runway is grassy and oriented on direction 08 / 26, having the length of 900 m and the width of 100 m.

As noticed in fig. 7, when the accident occurred, the western half of the runway was under reconstruction.

According with measurements performed by investigation commission, the distance between working area and the access road is 308 m, not 400 m mistakenly appreciated by the ULM pilot and communicated by radio using the CLUJ TWR frequency. This distance, in fact much less than that appreciated and transmitted,
was considered the "operational track" both by ULM pilot and also the pilot of the aircraft involved in the accident.

2.3 Meteorological information

According to the METAR from 09.06.2017, at 12.00 UTC (15.00 LT) valid for Cluj "Avram Iancu" International Airport the weather conditions were as follows: wind from 340º with 4 kt (2m/s), clear sky and visibility over 10 km (CAVOK), temperature 22ºC and pressure QNH = 1017.

2.4 Operational aspects

The pilot had a PPL license and a medical certificate, both valid, and the aircraft also had the airworthiness certificate valid, maintenance being performed according with the approved maintenance schedule.

In order to plan the flight, the pilot did not contact the airfield administrator to announce the intention to land and to obtain his approval. The information was obtained only by consulting the data on Romanian Aeroclub website, where the dimensions of the landing runway were 900 m for length and 100 m for width. It is not mentioned that the available runway length for landing /take-off is reduced and also no other supplementary information were provided.

The GD 912/25.08.2010, imposes by art.8 (3) a few cumulative conditions through which the airplanes with MTOW less than 5700 kg can land/take-off on/from a field other than a certified civil aerodrome. One of these conditions is to obtain the approval from the owner or its administrator to use the airfield. Considering the fact that the pilot did not previously contact the administrator of "Traian Dârjan" airfield to inform him of his intension and to obtain the approval for landing, the pilot shouldn't have landed on this airfield.

The information on the availability and condition of the airfield runway were obtained by the pilot while approaching the destination, when he contacted CLUJ TWR, through the data provided by the pilot of the ULM aircraft that had just landed.

According with the measurements on the ground, from touchdown (aircraft wheels in contact with the ground) till the impact point with the embankment, the aircraft rolled 232 m.

According to the calculations (see table in fig.6), the necessary landing distance was 263 m, so the aircraft stop in the available space after landing was no longer possible.

Moreover, the aircraft braking was started after almost 150 m of rolling after touchdown (according to the pilot’s statement).
In order to stop the aircraft in the runway limits, the touchdown should have been as close as possible to the beginning of the available runway, and braking should have been made immediately after landing.

![Diagram](image.png)

**Fig.8 Location of F-BXZI aircraft landing point in relation to the available runway**

**3. Conclusions**

**3.1 Findings**

- The pilot had a PPL license and a medical certificate, both valid;
- The aircraft had a valid airworthiness certificate and maintenance was performed according with the approved maintenance schedule;
- In order to plan the flight, the pilot did not contact the airfield administrator to announce the landing intention and to obtain his approval;
- On the airfield website, it is not mentioned that the available runway length for landing/take-off is reduced, due to work-in-progress at runway surface;
- According with measurements performed distance between working area and the access road is 308 m, not 400 m mistakenly considered by both pilots;
- The aircraft touchdown was close to the runway end, thus leaving a shorter distance than that required to safely stop the aircraft;
- In order for the aircraft to be stopped within the remaining operating limits, the touchdown should have been as close as possible to the beginning of the available runway, and braking should have been made immediately after landing.
3.2 Cause of accident

The cause of this accident is the landing performed towards the end of the available runway, based on an incorrect assessment of the touchdown in relation to the available runway length due to not knowing in advance the real condition of the airfield runway.

3.3 Safety recommendations

After this accident the investigation commission issues the following safety recommendations:

1. It is recommended to the Romanian Civil Aeronautical Authority that in scheduled safety meetings with civil aviation agents conducting general aviation operations, in accordance with the National Civil Aviation Safety Plan 2017-2021, should consider issuing a notice and/or conducting an educational campaign to emphasize the importance of flight preparation, especially when an aerodrome/airfield that has not been used is to be used.

2. It is recommended to the Romanian Aeroclub to permanently maintain updated all the information on their website, especially those on the condition and availability of the airfields/aerodromes they administrate.

Note: The documents and analysis objects used for the issuance of the flight safety investigation Report are confidential and are archived at the Civil Aviation Safety Investigation and Analysis Center, according to legal provisions.