THE REPUBLIC OF CROATIA

Air, Maritime and Railway Traffic Accident Investigation Agency
Air Traffic Accident Investigation Department

Class: 343-08/18-02/03
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Zagreb, 23 September 2019

F I N A L R E P O R T

ON ACCIDENT OF THE AIRCRAFT CESSNA 180, registration N36362

Brač Airport, 8 June 2018

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The aim of the investigation relating to safety is in no case determination of guilt or liability.

Investigations are independent and separate from court or administrative proceedings and should not prejudice determination of guilt or liability of individuals.

The final report cannot be used as evidence in court proceedings whose aim is determining civil or criminal liability of individuals.

CONTENT

OCCURRENCE INFORMATION

Occurrence class:	Accident
Date:	8 June 2018
Time:	12:50 LT
Location:	Brač Airport
Type of the aircraft:	Aeroplane
Registration:	N 36362
Manufacturer / model:	Cessna 180
Operator:	Southern Aircraft Consultancy Inc.
Number of people on board:	2
Injuries:	No injuries
Damage to the aircraft:	Significant

INVESTIGATION

The Air, Maritime and Railway Traffic Accident Investigation Agency (AIA) received information on the accident from the Brač Airport and the Croatia Control. The investigators were sent to the accident site and the investigation was opened on the same day.

Upon completion of the investigation, the Air, Maritime and Railway Traffic Accident Investigation Agency issued this Final Report.

SUMMARY

On 6 June 2018, during landing to Brač Airport, the aircraft N36362 after touchdown uncontrollably turned to the right and exit the runway. The persons on board were not injured while the aircraft suffered significant material damage.

The investigation determined that the meteorological factor had a significant role in this accident.

AIA issued no safety recommendation.

1. FACTS AND INFORMATION

1.1. FLIGHT INFORMATION

On 6 June 2018 the aircraft N36362 flew on the route from Podgorica (LYPG, Montenegro) to Brač (LDSB, Croatia). There were two people on board. Both persons had valid pilot licenses. The flight was proceeding normally and without difficulties.

During landing, after touchdown, the aircraft uncontrollably turned to the right, exit the runway and stopped on a flat surface several meters right of the edge of runway 04.

1.2. INJURIES

Injuries	Crew	Passengers	Others
fatal	0	0	0
serious	0	0	0
minor / none	2	0	0

1.3. DAMAGE TO THE AIRCRAFT

The aircraft was significantly damaged in this accident. The left wing and the left horizontal stabilizer were significantly damaged, and the left strut was broken. The propeller blades were deformed due to impact on the ground. The left landing gear was broken. The windscreen was moved from its base and the right door was separated from the fuselage.

Picture 1 – Aircraft N36362 at the accident site

1.4. OTHER DAMAGE

At the site of the accident there were no other damages.

1.5. PERSONAL INFORMATION

Two persons were aboard the aircraft, both with valid pilot licences.

1.5.1. Pilot 1

Male person, USA citizen, born in 1952. At the time of the accident he possessed licences issued by the USA Federal Aviation Administration, as follows: Airline Transport Pilot, Flight Engineer and Flight Instructor (airplane single engine). Medical Certificate Second Class was issued on 26 March 2018 by the USA Federal Aviation Administration which covers general aviation.

The Pilot 1 is a very experienced pilot with 27,596 total flight hours. He flew 5.652 hours on single-engine aircrafts, 2,700 of which on tailwheel aircrafts.

He was in command of the aircraft at the time of the accident.

1.5.2. Pilot 2

Male person, UK citizen, born in 1953. At the time of the accident he possessed a PPL issued by the USA Federal Aviation Administration.

At the time of the accident he was not in command of the aircraft.

1.6. AIRCRAFT INFORMATION

1.6.1. General aircraft information

Registration:	N36362
Manufacturer:	Cessna, USA
Tip:	180
Serial number:	31691
Year of manufacture:	1955
Owner:	Southern Aircraft Consultancy Inc.
Operator:	Southern Aircraft Consultancy Inc.
Total flight time:	5293.2
Engine type:	Continental O-470-J-11F
Engine serial number:	202227-R
Propeller:	Hartzell PHC-C3YF-1RF/F7691
Propeller serial number:	EE4301B

1.6.2. Aircraft description

Cessna 180 is a single-engine high wing aircraft of metal construction. The production of this aircraft began in 1953 and lasted until 1981. It is powered by a piston engine and a constant speed propeller. The landing gear is non retractable, tail-wheel type. Although the production ceased in 1981, a large number of these aircrafts are still in use.

Picture 2 – Aircraft Cessna 180, registration N36362

1.6.3. Aircraft characteristics

Number of seats:	4
Length:	7.85 m
Wingspan:	10.92 m
Height:	2.36 m
Weight of empty aircraft:	771 kg
Maximum take-off weight:	1270 kg
Maximum cruise speed:	274 km/h
Stall speed:	89 km/h
Maximum flight altitude:	5400 m

1.6.4. Other information

The subject aircraft had a valid Certificate of Registration and Certificate of Airworthiness issued by the Department of Transportation – Federal Aviation Administration, United States of America.

1.7. METEOROLOGICAL INFORMATION

At the time of the accident, favourable meteorological conditions for VFR flight prevailed. At the time of the accident, Tower ATC at Brač Airport that could have had complete insight and could have provided information on current meteorological data, was not present.

The pilot obtained information about the meteorological situation from Split Airport ATC, which indicated wind speed of 10 kt from direction 100 °. Also, the pilot observed that the sea surface was calm, indicating very weak or no wind at that level. Also, at the approach to Brač Airport, the pilot noticed that the wind indicator at the airport, which was located approximately at the half of the runway, indicated the wind from the east direction.

1.8. AIRPORT INFORMATION – BRAČ AIRPORT (LDSB)

It is located on the island of Brač above Bol village, at an altitude of 541 m MSL. It is equipped for the receiving and dispatching of smaller commercial aircrafts with up to 100 seats, during daylight and night. Commercial flights mostly take place only during the summer season.

Brač Airport is open during all year, however Tower ATC is only present at certain periods. During the absence of Tower ATC at Brač Airport, communication takes place with the flight control of Split Airport.

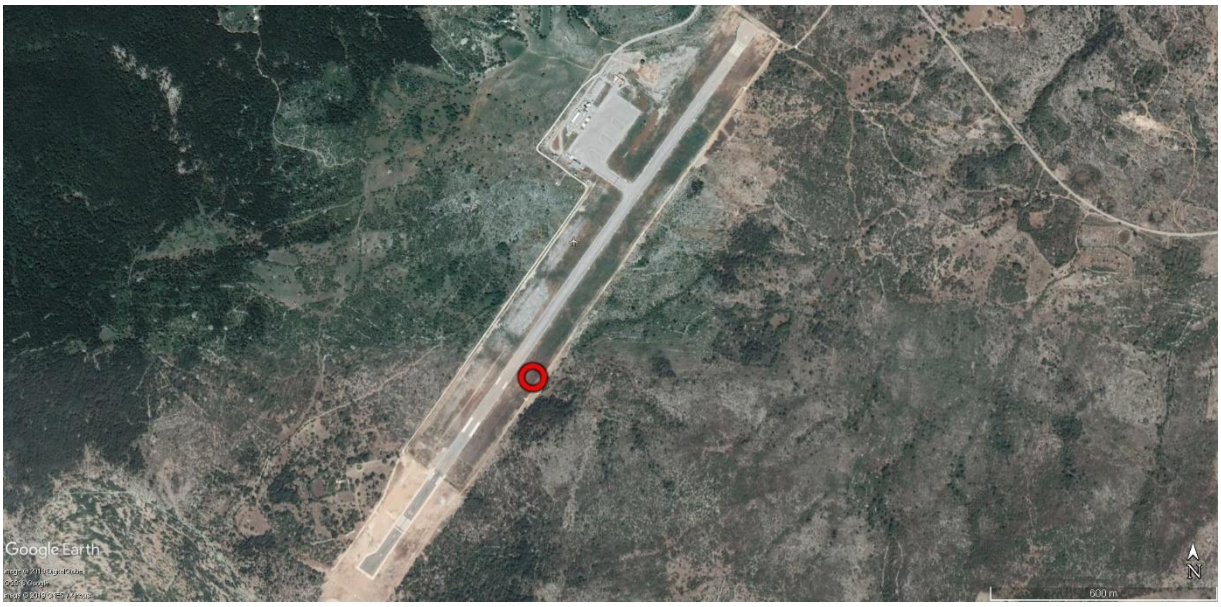
The runway is asphalted, 1760 m long and 04/22 orientation.
During 2018, 30170 passengers passed through Brač Airport.

1.9. FLIGHT DATA RECORDERS

The aircraft was not equipped with the flight data recorder or the cockpit voice recorder.

1.10. IMPACT AND WRECKAGE INFORMATION

After exiting the runway, the aircraft stopped on the flat surface several meters away from the runway. The type of the ground along the runway is a hard ground with fine stones, covered with rare grass.



Picture 3 – Brač Airport, the red circle marks the place where the aircraft stopped after exiting the runway

1.11. MEDICAL INFORMATION

The persons who were on board the aircraft did not sustain injuries. Therefore, the medical assistance was not required.

The persons who were on board the aircraft were not under the influence of alcohol.

1.12. ADDITIONAL INFORMATION

1.12.1. Statement of Pilot 1

The Pilot 1, who operated the aircraft during the subject flight, stated that the flight passed under good meteorological conditions. The surface of the sea was smooth, indicating that there was almost no wind at sea level.

Since Brač Airport is located at the altitude of 541 m above mean sea level and the control tower did not operate, the pilot requested weather data from Split Airport control tower. He received information on wind of speed of 10 kt with gusts, from direction 100 °.

Before landing at Brač Airport, the Pilot 1 overflew the airport to observe the situation. He stated that the windsock indicated wind from the south-east direction, therefore the direction approximately 90° to the runway. Visually, according to the wind indicator, he could not determine the wind speed. He chose the runway 04 for landing.

He stated that the approach to the runway 04 was performed from the left flight pattern. He could feel certain turbulences, which were expected. On the south-east side of the runway, he noticed the hill in relation to which this part of the runway was in the lee.

During landing, after touchdown, he felt a strong wind gust from the right side, according to his estimation of over 25 kt. Despite the pilot's reaction (full left-handed steering and full left brake), the aircraft turned to the right and exit the runway.

The Pilot 1 stated that, according to his opinion, the contributing factor in this accident was the lack of presence of Tower ATC, which made it impossible to obtain accurate information about the local wind. He stated that, if he had more accurate wind data, most likely he would have chosen another more suitable airport. He further stated that he believed that the windsock would have been more appropriate at the beginning of the runway rather than the windsock at the middle of the airport, because there is a difference in the wind.

1.12.2. Aircraft accidents at Brač Airport

Prior to the subject accident, the only accident recorded at Brač Airport occurred on 15 July 2010. This was during aircraft C-550B landing, when the aircraft was not able to stop at the end of the runway due to touching down in the last third of the runway. Regarding the said accident, the meteorological factor had no influence.

2. ANALYSIS

2.1. CIRCUMSTANCES

At the day of the accident the meteorological conditions were favourable. There were no objective weather conditions that could adversely affect the flight of the aircraft N36362 on the route from Podgorica to Brač (LYPG-LDSB).

In the area of Brač Airport, the conditions were somewhat more complicated. The airport is located on a natural plateau at an altitude of more than 500 m above sea level. In the presence of wind, terrain relief can cause certain turbulence.

The number of passengers who have passed through Brač Airport for many years (in 2018, over 30000, a little less in the previous years), indicates that numerous flight operations have been taking place at this airport for years.

Prior to the subject accident, a single aircraft accident was recorded at Brač Airport, which was, however, of a completely different character. The mentioned accident had no connection with the meteorological conditions at that time.

Therefore, the subject accident was the first accident at this airport in which meteorological conditions (wind) could have been a contributing factor.

The airport tower traffic control is present at this airport at certain periods, while the remaining times the flight operations take place without any airport traffic control. This information was published in Aeronautical Information Publication, and the decision on using a particular airport is made by the pilot in command.

2.2. LANDING

The Pilot 1, who operated the subject aircraft, had a vast experience, both on large aircrafts and on general aviation aircrafts. According to the collected information during this investigation, it can be considered that the pilot took flying seriously and conscientiously.

Before the landing, the pilot 1 first flew over the airport to get to know the situation. After that he started the approach and landing. Despite the correct approach procedure, during touchdown, the aircraft turned to the right. According to the pilot 1, at the moment of touchdown, the gust of wind carried away the aircraft, which he could no longer correct, and the aircraft exit the runway.

3. CONCLUSION

3.1. FINDINGS

- Meteorological conditions had effect on this accident,
- Due to the wind that was present, certain turbulences occurred in the airport area,
- Airport traffic control at Brač Airport is only present in certain periods,
- At the time of landing of the subject aircraft, the airport traffic control at Brač Airport was not present,
- The pilot who operated the aircraft was familiar with the above mentioned situation at Brač

Airport,
- The pilot who operated the aircraft was very experienced,
- The gust of side wind most likely contributed in runway excursion after aircraft touchdown.
- The investigation did not identify any technical deficiencies on the aircraft,
- The pilot and the aircraft met all legally prescribed requirements.

3.2. CAUSE

The cause of exiting of the aircraft from the runway was uncontrollable turn of the aircraft to the right, most probably initiated by the gust of the side wind from the right.

4. SAFETY RECOMMENDATIONS

Recommendation to the Croatia Control

In the course of this investigation, it was noted that there was a need and an opportunity to improve the provision of meteorological information on the Brač Airport. Therefore, AIN issues the following safety recommendation to the Croatia Control:

AIN04-SR-01/2019

Croatia Control should enable the provision of meteorological information on the situation at the Brač Airport at times when flight control is not present at the Brač Airport, for example by AWOS or ATIS automatic systems.

Recommendation to the Brač Airport

Considering the influence of the surrounding terrain configuration on the air flow at the Brač Airport area, the existing one windsock is not sufficient to show the actual wind situation along the entire runway. Therefore, AIN issues to the Brač Airport the following recommendation:

AIN04-SR-02/2019

The Brač Airport should, in addition to the existing windsock placed at the central part of the runway, set up additional windsocks in the areas of the two runway thresholds, in purpose to show the direction and strength of the wind at the runway thresholds.

Investigator in charge

Danko Petrin