



Accident to the SOCATA TB10
registered **F-GJXO**
on 4 March 2024
at Béziers-Vias (Hérault)

Time	Around 14:30 ¹
Operator	ENAC
Type of flight	Instruction
Persons on board	Instructor, student pilot, passenger
Consequences and damage	Student pilot injured, aeroplane substantially damaged
This is a courtesy translation by the BEA of the Final Report on the Safety Investigation. As accurate as the translation may be, the original text in French is the work of reference.	

Bird strike while in holding pattern, in instruction

1 HISTORY OF THE FLIGHT

Note: the following information is principally based on statements.

The student pilot, accompanied by an instructor and another student pilot (passenger), took off from Montpellier-Méditerranée airport (Hérault) for a cross country flight to Lézignan-Corbières aerodrome (Aude). During the flight, the instructor asked the student pilot to divert to Béziers-Vias airport in order to carry out PFO exercises².

On completion of a first exercise, the controller asked the student pilot to hold in the holding pattern north of the airport as a commercial air transport aeroplane was on approach. The student pilot carried out a LH 360° turn. The controller asked him to climb to 2,000 ft and to continue holding with a second 360° turn and then to report overhead the aerodrome.

At the end of the turn, when the student pilot levelled the wings, a group of storks could be seen ahead of them. The instructor called out that she was taking the controls and tried to avoid the birds. A stork struck the windshield, which broke under the impact, and the bird penetrated into the cabin, finishing its path on the LH rear seat. The student pilot was injured by the bird and fragments of windshield. The instructor observed that the aircraft was controllable and that the engine was operating normally. She reported the collision and windshield damage to the controller and asked to join the circuit for a full stop landing. The landing took place without further incident. The instructor asked for medical assistance for the student pilot.

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

² Practice Forced Landing.

2 ADDITIONAL INFORMATION

2.1 Aircraft information

The TB10 was certified on 26 April 1979, in accordance with the FAR 23 certification requirements, amendment 16 of 14 February 1975. No specification regarding the strength of the windshield in withstanding a bird strike was defined therein.

By way of comparison, the current certification specifications applicable in Europe to normal category aeroplanes (less than 19 passengers and maximum take-off mass of less than 8,618 kg) are defined in CS-23 of the European Aviation Safety Agency (EASA). Of these aircraft, only level-4 aeroplanes (able to carry 10 to 19 passengers) have to comply with a windshield strength specification in the event of a bird strike. This specification (CS 23.2320 (b)) stipulates that the windshield and its supporting structure directly in front of the pilot must withstand, without penetration, the impact equivalent to a two-pound (0.91 kg)³ bird when the velocity of the aeroplane is equal to the aeroplane's maximum approach flap speed.

For the Socata TB aeroplane range, the manufacturer had registered eight accidents resulting from a bird strike since 2008, including one fatal accident⁴.

The windshield of F-GJXO was damaged on the LH side (see **Figure 1**).

An impact mark on the elevator was visible without structural damage.



Figure 1: photo of damage (source: ENAC)

³ The weight of a stork is a lot higher.

⁴ Accident to the Socata TB20 registered EC-ESK on 16 January 2016 ([English report](#)).

2.2 Meteorological information

The meteorological conditions estimated by the French met office, Météo-France, on the site of the accident were the following: wind from 320°, 13 kt, CAVOK, temperature 9°C.

2.3 Bird hazard at Béziers Vias airport

In its section ENR 5 Navigation Warnings, the AIP provides aeronautical users with information on bird migrations and sensitive areas with high concentrations of birds. Béziers-Vias airport is situated on the autumn and spring migration routes.

In the air navigation hazards paragraph of the VAC, it is indicated that birds are present all year long.

The day of the accident, the bird hazard was mentioned neither in the ATIS nor by the controller in the exchanges with the pilots. The air navigation services indicated that the ATIS only mentioned the bird hazard when the controllers could see birds on the aerodrome from the tower so as not to make this information common place.

2.4 Instructor and student pilot information

The 42-year-old instructor held an aeroplane commercial pilot licence (CPL(A)) obtained in 2008 with the aeroplane flight instructor (FI (A)) rating. She had logged 3,831 flight hours, including 57 hours in the previous three months and 21.5 hours on the TB10.

The 21-year-old student pilot started his practical training on 21 January 2024. He had logged 29 flight hours on the TB10.

2.5 Statement

2.5.1 Instructor's statement

The instructor indicated that during flight preparation, she had reviewed with the student pilots, the hazards identified on the chart for the initial destination aerodrome, Lézignan-Corbières, but not those on the Béziers-Vias airport chart. She added that she knew about these hazards from having flown there several times.

She indicated that when the student pilot levelled the wings, a group of storks which had probably come from the RH side was ahead of them. She had not perceived them beforehand and thought that they must have been masked by the RH wing. She specified that when she took the controls, she tried to keep a zero bank. The storks were flying on both the LH and RH sides. She then tried to avoid a stork coming from the right by slightly pitching down. The stork went through the windshield, breaking both the windshield and the sunshield before finishing its course on the LH rear seat⁵. The student pilot suffered injuries to his face, was in shock but conscious. The instructor added that she checked that she could control the aeroplane and that the engine was operating normally. She understood at the end of the downwind leg that the student pilot could not communicate with her as he had lost his headset. When he put his headset back on, he spoke clearly. She was reassured and did not ask for assistance at their arrival. Once they had vacated the runway, the student pilot told her that he was in pain and she observed that he was still in a state of shock. She asked for the intervention of the emergency services.

⁵ The passenger was sat in the RH rear seat.

2.5.2 Student pilot's statement

The student pilot indicated that he was carrying out LH 360° turns at 2,000 ft at a speed of 90 kt in the holding pattern north of the airport at the controller's request. When he levelled the wings, a group of storks suddenly appeared ahead of the aeroplane without anyone having spotted them beforehand. The student pilot added that he did not know where they came from. As the instructor was slightly pitching down to avoid the storks after having taken the controls, a stork struck the aeroplane. The windshield exploded and fragments of windshield and the bird struck the student pilot's head. He specified that he was in shock and that it took him a few seconds to regain his senses, that his glasses were broken and that his headset had been thrown rearwards. He could see that the instructor was piloting the aeroplane and talking on the frequency without being able to hear her. He had suffered injuries to his face and left hand, and was blood stained. The instructor gave him his headset which he put back on and was able to hear and speak. On the ground, he was attended to by the airport responders before being taken to the casualty department.

3 CONCLUSIONS

The conclusions are solely based on the information which came to the knowledge of the BEA during the investigation.

Scenario

During an instruction flight, at the end of a 360° turn while holding to the north of the airport, the aeroplane flew through a group of storks. The instructor took the controls and tried to avoid a collision with the birds. A stork struck the windshield and penetrated into the cabin. Fragments of windshield and the bird injured the student pilot sat in the left seat. The instructor assessed the handling characteristics of the aeroplane and asked for clearance to land. The aeroplane landed without further incident. The instructor then asked for the intervention of the emergency services.

Safety lessons

The report concerning the [accident to the Robin DR400 registered F-GNNE on 18 April 2021 at Saint-Pathus](#) lists the various bird strike studies published in recent years. This report also indicates the actions to prevent bird strikes taken into account. Based on the frequency and seriousness of the occurrences registered, the bird strike risk is considered to be relatively low.

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