DATA SUMMARY

LOCATION

Date and time	**Wednesday, May 25th 2005; 16:00 local time**
Site	**Jerez Airport (Cádiz)**

AIRCRAFT

Registration	**PH-BWA**
Type and model	**BEECHCRAFT BONANZA A-36-AT**
Operator	**KLM Flight Academy**

Engines

Type and model	**CONTINENTAL IO-520-BA**
Number	**1**

Crew

Pilot in command

Age	**24 years**
Licence	**Commercial aircraft pilot**
Total flight hours	**1,760 h**
Flight hours on the type	**4:30 h**

INJURIES

	Fatal	Serious	Minor/None
Crew			**2**
Passengers			**1**
Third persons			

DAMAGES

Aircraft	**Minor**
Third parties	**None**

FLIGHT DATA

Operation	**General aviation – Flight Training – Dual**
Phase of flight	**En route – Manoeuvring**

REPORT

Date of approval	**25 April 2006**

1. FACTUAL INFORMATION

1.1. Description of the event

The aircraft took off from Jerez airport at 15:45 h[1] local time towards point ECHO of Jerez CTR, intending to carry out an IFR dual training flight. There were 3 people on board, the flight instructor, the student pilot and a passenger. When going through point ECHO and at around 2,000 ft of altitude, the flight instructor asked the student to perform a rate one turn to the right.

During the accomplishment of this maneuver, a bird struck the front right part of the aircraft. The flight instructor received most of the impact but she managed to recover the controls and returned to Jerez airport, where they landed at 16:05 h local time.

1.2. Damages suffered by the aircraft and injuries to people on board

As per statements of the aircraft occupants, at the beginning they were afraid the flight instructor was seriously hurt, as she had received most of the impact and was covered with lots of feathers and blood. At their arrival to the airport, she was sent to hospital, where she received treatment for her wounds and finally her injuries diminished to some cuts on the face and bruises in the thorax, as a direct consequence of the impact with the bird.

The aircraft had the windscreen broken, damages on the right side of the control panel, to the firewall and to the right door (see Figure 1). Also some minor damages were produced on the right side of the fuselage and to the elevator.

1.3. Crew information

The flight instructor and pilot in command have got a license of commercial aircraft pilot and had a total flight time of 1,760 h.

The mission of the flight was a dual IFR instructional flight classified as SPIC (Student Pilot in Command), during which the student pilot was acting as pilot in command, having the windscreen of his side covered with an IFR screen and the flight instructor acting as the safety pilot without influence or control on the flight of the aircraft.

The technical tasks consisted of performing tight turns and climbing turns. According to the crew statements, they are agree that when they were over point E, they did a rate one turn to South heading, and soon afterwards it was initiated the impact happened.

[1] Time reference used in this report is local time except other wise specifically indicated.

Figure 1. Damages of the bird impact with aircraft

None of them, nor the passenger, mention to watch out of aircraft before to proceeding with the turn to check that they were free of obstacles and so the area where they are going to.

1.4. Aircraft information – Technical data

Model:	Beechcraft Bonanza A36AT
Serial number:	e-2581
Year of manufacture:	1991
Engine:	Continental IO-520-BA
Serial number:	810394-R

1.5. Jerez airspace

Jerez airspace has a Control Zone (CTR) formed by a circle of 7 NM of radius, with the center in the Airfield Reference Point (ARP) and whose vertical limits go from surface up to 1,000 ft (300 m) (see Figure 2). The unit in charge for the management of this controlled airspace is the Seville Approach Control.

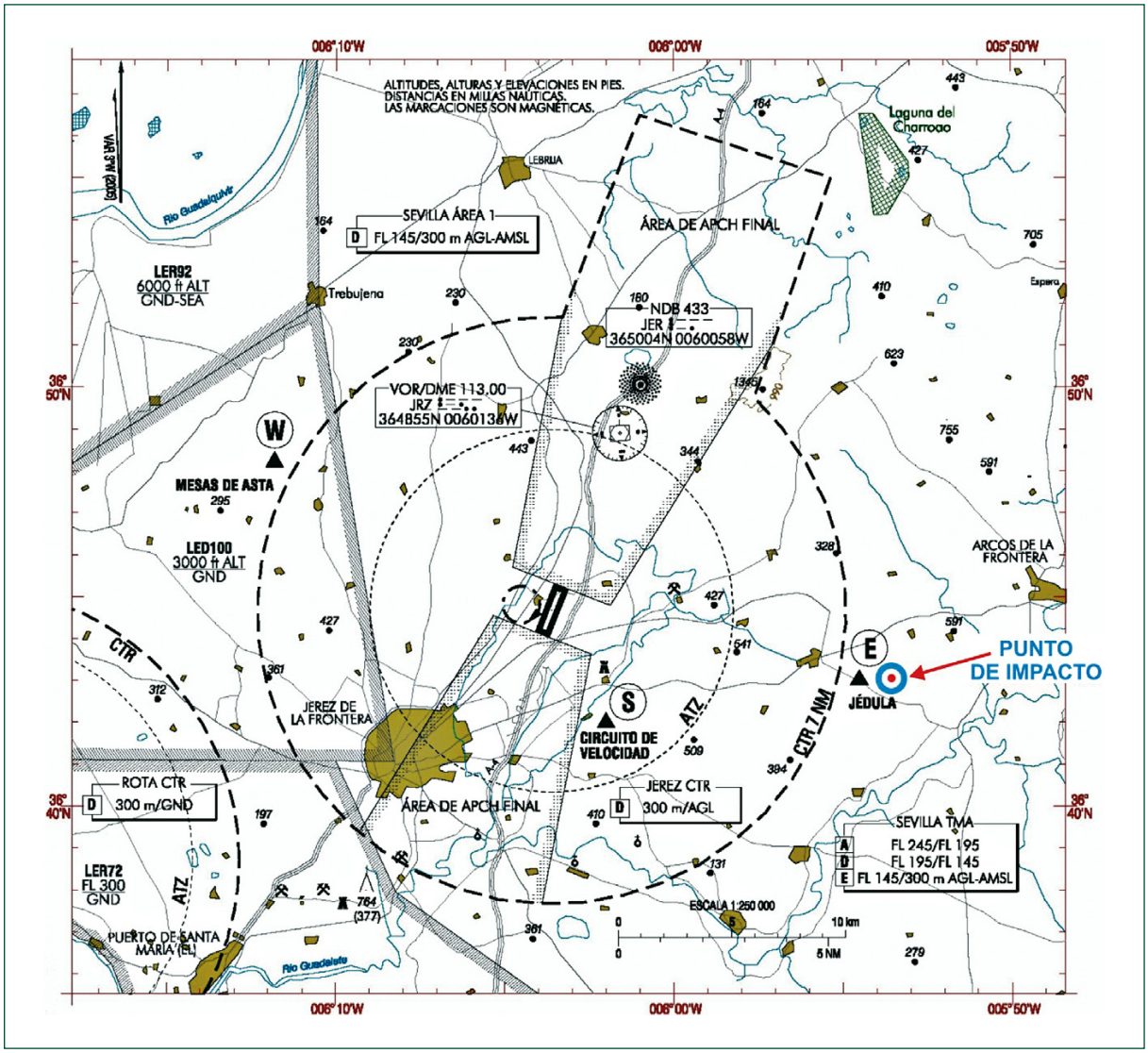

Figure 2. Location of the point of the bird strike

Point ECHO is established as an entering point to the CTR and it is placed to approximately 7.5 NM eastwards from the ARP. The place where the bird struck the aircraft is located beyond that point.

1.6. Bird identification and description of birds migrations and concentrations

The bird was identified, thanks to some feathers that stayed inside the aircraft, by qualified Jerez airport personnel. They determined that those feathers belonged to an adult specimen of stork.

Jerez airport is situated in a zone of concentration and settlement of storks. According to the qualified personnel, there are some stork nests located in the surroundings of the air-

port, though they are being removed little by little in order to avoid possible collisions. These nests were checked after the incident, being verified that no specimen was absent.

According to the available information, migration of birds take place at an altitude between 150 and 800 m (500 and 2,600 ft approximately), depending on the intensity of the flow, on the species and on the weather conditions. Migration periods are concentrated in autumn and spring, out of the date in which the incident happened. The daytime migration and generally speaking, the main activity of the gliding birds (storks, birds of prey) takes place mostly during the hours of highest warming of the terrestrial surface, due to the fact that they need thermal streams to fly. Therefore pilots are advised to fly preferably during the early hours of the day in these zones close to migration corridors or to concentrations of gliding birds.

2. ANALYSIS AND CONCLUSIONS

The aircraft took off from Jerez airport at 15:45 local time towards point ECHO, intending to carry out the tasks concerning the dual IFR training flight with SPIC. There were 3 people on board, the flight instructor, the student pilot and a passenger. When going through point ECHO (approximately at 7.5 NM from airfield) and at some 2,000 ft of altitude, according to the statements of people on board, the flight instructor asked the student to proceed with one of the tasks of the IFR training mission, consisting in a turn to the right, during which the student had to have his windscreen covered with the IFR screen. While proceeding with this maneuver, there was an impact with the bird that was proceeding from the right side of the aircraft.

According to the available information, as well as per statements of the qualified airport personnel, though Jerez airport is located in a zone of concentration and way of birds, these movements are limited to certain paths. Knowing that the specimen that crashed against the aircraft did not belong to the nearest nests of the airfield, which are pending to be removed as they are potentially more dangerous, and also that the impact was produced out of the CTR zone, it can be concluded that the collision of the incident just happened by chance.

However, and due to the particular conditions of this environment, in which the presence of birds between the ground and approximately 3,000 ft is more frequent, it can be suggested trying to avoid the accomplishment of flights during the hours of major warming of the terrestrial surface. Nevertheless, the operator has informed about sightings storks almost at any time of the daylight period and up to altitudes of 7,000 ft.

Despite of the fact that the crew do not mention that they watched out of the aircraft before to proceeding with the turn, the flight academy has indicated that in their operations they always stick to the procedures and checklists and that they have a good lookout at all times. It is suggested revising the checklists of the procedures to complete them with items concerning the previous visual inspection of the closest airspace before proceeding with steep turns and high rate climbs or descents.