

Investigation Report

Identification

Type of Occurrence:	Accident
Date:	14 December 2011
Location:	Berlin-Tegel Airport
Aircraft:	Airplane
Manufacturer / Model:	Bombardier / DHC8-300
Injuries to Persons:	One person severely injured
Damage:	None
Other Damage:	None
Information Source:	Investigation by BFU
State File Number:	BFU AX001-11

Factual Information

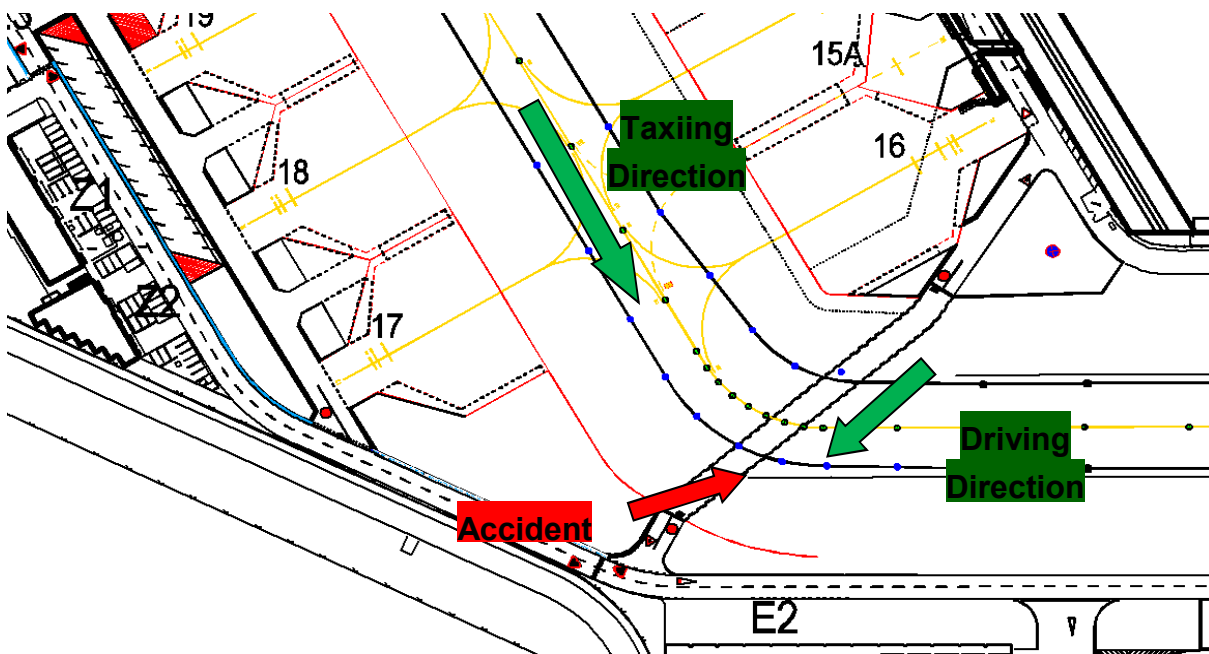
The airplane was taxiing along taxiway PW when the crew had to brake abreast of stand 16 because of a vehicle coming from the left. One of the flight attendants fell and was severely injured.

History of the Flight

The DHC8-300 was scheduled for a flight in accordance with Instrument Flight Rules (IFR) from Berlin-Tegel to Friedrichshafen. At 2016:42 hrs¹ after they had been pushed back from stand 19, the crew received taxi clearance. "Taxi holding point runway 26L via the bridge and SE."

The analysis of the flight data recordings showed a taxiing speed of about 16 kt.

According to the statements of the crew, at 2017:25 hrs they had to brake heavily abreast of stand 16 because a vehicle coming from the left did not stop at the holding position of the road intersecting the taxiway and cut across in front of the airplane.



Apron in the area of stand 16

Source: Aerodrome Operator/BFU

¹ All times local, unless otherwise stated.

According to the flight data recorder the airplane decelerated with about -5 m/s^2 until standstill.

That is when the flight attendant fell. She stated that at that time she had been talking to the passenger in seat 4c and had given her nosedrops from the first aid kit. According to her statement, prior to talking with the passenger she had been checking the seat rows and seat belts.

When all of a sudden the airplane braked she could not find any support and was suddenly thrown toward the cockpit. The right side of her body hit the coat rack or the cockpit door and she fell to the floor. The emergency physician was called from the cockpit.

The distance between row four and the cockpit door is about four meters.



Position of the flight attendant after the emergency braking

Position of the flight attendant before the emergency braking

Source: Operator

The driver of the car (silver Opel Corsa) was not employed at Berling-Tegel Airport but did have the required permission to drive around the airport.

A Bundespolizei (German federal police) patrol drove behind the Opel Corsa. Both police officers stated the Opel Corsa had crossed the holding position even though there was a big stop sign painted on the surface of the road. From the right an airplane (DHC8-300 on taxiway PW) approached. Due to the taxiway lighting and the aircraft lighting it was clearly visible. Visibility was good (no rain or fog). The airplane had come to a stop five to ten meters in front of the car after the emergency braking. The driver of the car did not react but drove away toward the cargo hangars with increased speed.

A truck of one of the airport's supply companies stood on the other side of the intersection. The driver stated he had seen the DHC8 coming from the left and therefore stayed. As the airplane had been abreast of stand 15 the car (Opel) had stopped briefly and then drove on again. The Bundespolizei car behind the Opel had flashed its lights. In the area of the taxiway centreline there were about three to five meters left between the DHC8 and the Opel when the airplane initiated the emergency braking. After that the driver of the Opel had increased speed and driven away toward the cargo centre. The DHC8 crew had then shut down the engines and turned off the position lighting as well as the taxi lighting.

The driver of the Opel did not want to give any statements.

Personnel Information

DHC8-300 Crew

Pilot in Command (PIC)

The 30-year-old pilot held an Airline Transport Pilot's License (ATPL(A)) issued by Austro Control GmbH in accordance with ICAO and JAR-FCL valid until 3 March 2015. His flying experience was 3,847 hours on the type in question.

Co-pilot

The 43-year-old co-pilot held a Commercial Pilot's License (CPL(A)) issued by Austro Control GmbH in accordance with ICAO and JAR-FCL valid until 9 June 2014. He had a flying experience of more than 1,400 hours on the type in question.

Flight Attendant

The 31-year-old flight attendant had been working in her field since 2002 and since 2005 had been employed by the operator involved.

Driver Opel Corsa

The 46-year-old driver held a valid airport driver's license since 12 February 2010.

Aircraft Information

DHC8-300

The aircraft type is a twin-engined turboprop medium range shoulder wing airplane. In addition to the crew up to 50 passengers can be transported.

The aircraft had a valid Austrian certificate of registration and was operated by an Austrian operator.

Meteorological Information

At the time of the occurrence the aviation routine weather report (METAR) of Berlin-Tegel showed the following weather conditions: Ground visibility was more than 10 km. Wind velocity was 240°, 10 knots. The main cloud base was at 5,000 ft. There had been rain before. Temporarily rain showers had to be expected.

It was dark. The two police officers confirmed the good visibility. The area had been well lit and the airplane had been visible too due to its own lighting.

Communication

The responsible air traffic service provider recorded radio communications and made them available as transcripts for investigation purposes.

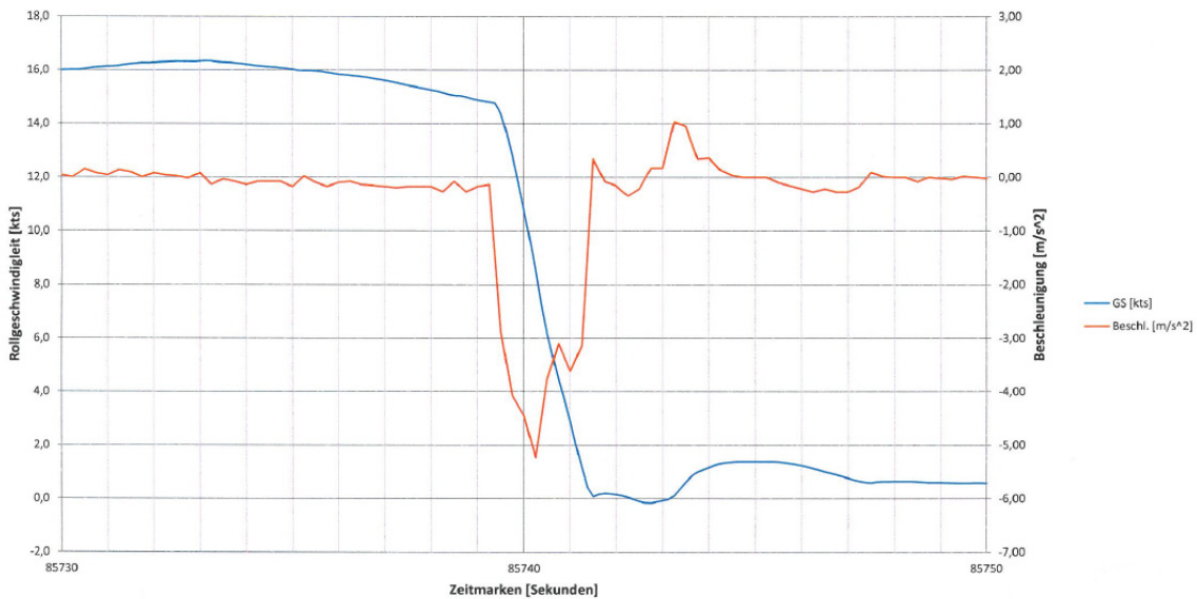
Aerodrome information

Berlin-Tegel Airport has two parallel runways oriented 08/26. The north runway is 3,023 m long and 46 m wide. The south runway is 2,428 m long and 43 m wide. The civilian apron with the stands is located south of the parallel runways.

Flight Recorder

The ground radar recordings of the air traffic service provider were available for the investigation.

The flight data recordings were available for evaluation.



Flight data recorder analysis

Source: BFU

Wreckage and Impact Information

The accident occurred on taxiway PW abreast of stand 16. The airplane was taxiing south and came to a stop before reaching the road. The car drove south-west on the road intersecting the taxiway. Shortly behind stand 16 the road intersects the taxiway. Airplane and car remained undamaged.

Organisations and their Procedures

Airline

The Cabin Attendant Manual (CAM) of the company stipulated as to when the flight attendants had to be seated with their seat belts fastened. Among others, this is the case during taxiing. Safety related tasks constitute an exception to the rule. These tasks include: safety demonstrations, emergency exit checks and checking whether all passengers are seated and have fastened their seat belts.

Airport

The Airport's Apron Order stipulates among other things:

"Taxiway PW shall only be crossed at specified places and by complying with the road markings and under adherence of safety regulations. This means one absolutely has to stop at stop markings and one can proceed only after making sure there is no aircraft moving on the taxiway. In general, aircraft shall not be hindered.

Furthermore: *"Taxiing and driving traffic on marked taxiways generally have right of way and shall not be hindered or put in danger."*

In order to obtain an airport driver's license for Berlin-Tegel Airport one has to complete an on-line training which has to be successfully passed with a test. Among other things, this training includes the apron order.

Analysis

The statements of the witnesses prove that the airplane was clearly visible in spite of the darkness. The apron order clearly stipulates the right of way of taxiing and driving traffic on taxiways. The traffic shall not be hindered or put in danger. Furthermore, one absolutely has to stop at stop markings and one can proceed only after making sure there is no aircraft moving on the taxiway. The witness statements do not clarify unambiguously whether or not the Opel driver did stop at the stop marking. However, it is absolutely certain that the car crossed the taxiway even though a taxiing airplane was approaching. Either the driver did not see it or decided in spite of clear regulations to cross in front of the aircraft.

The aircraft taxied with an appropriate speed.

The flight attendant was not in her seat with the seat belt fastened but with a passenger administering nosedrops. This task was not considered to be safety related. However, according to her own statement she had not completed all safety-related tasks. In accordance with CAM she was allowed to move around in the cabin during taxiing to perform safety-related tasks.

Conclusions

The accident occurred because the Opel driver disregarded the right-of-way rule of the apron order and an airplane had to brake heavily to avoid a collision.

Contributing factors:

At the time of the brake application the flight attendant was standing in the aisle of the airplane talking to the passenger in seat 4c. Had she been in her seat with the seat belt fastened the injuries would not have occurred.

Investigator in charge: Blanke
Assistance: Hempelmann
 Himmler

Braunschweig: 21. December 2012

This investigation was conducted in accordance with the regulation (EU) No. 996/2010 of the European Parliament and of the Council of 20 October 2010 on the investigation and prevention of accidents and incidents in civil aviation and the Federal German Law relating to the investigation of accidents and incidents associated with the operation of civil aircraft (*Flugunfall-Untersuchungs-Gesetz - FIUUG*) of 26 August 1998.

The sole objective of the investigation is to prevent future accidents and incidents. The investigation does not seek to ascertain blame or apportion legal liability for any claims that may arise.

This document is a translation of the German Investigation Report. Although every effort was made for the translation to be accurate, in the event of any discrepancies the original German document is the authentic version

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