

Interim Report

Identification

Type of Occurrence:	Accident
Date:	5 March 2013
Location:	Chicago, USA
Aircraft:	Transport aircraft
Manufacturer / Model:	Airbus / A330-300
Injuries to Persons:	None
Damage:	Aircraft severely damaged
Other Damage:	None
Information Source:	Investigation by BFU
State File Number:	BFU 2X001-13
Published:	May 2013

Factual Information

As the aircraft was rotating during take-off for a flight from Chicago, USA, to Munich, Germany, the aft fuselage section touched the ground. The National Transportation Safety Board (NTSB) has delegated the investigation into the occurrence to the BFU.

History of the Flight

Aboard the airplane were 182 passengers and 15 crew members. After the airplane had been de-iced in the vicinity of the terminal it taxied to runway 32R. The Pilot in Command (PIC) stated the runway had been cleared of snow and ice except for a few remaining patches. The co-pilot conducted the take-off. At 2118 hrs¹ as the airplane was rotating during the take-off run the aft fuselage section touched the surface of the runway (tail strike). During the subsequent initial climb a cabin crew member sitting in the area of the aft galley, reported an unusual noise. The third pilot in the cockpit received the report. The cockpit crew stated they had not noticed anything unusual during take-off. After a short analysis and consultation with the operator's maintenance department the crew decided to continue the flight to Munich. The continuing flight and the landing in Munich occurred without further incident.

Personnel Information

The 57-year-old PIC held an Air Transport Pilot's Licence (ATPL(A)) issued in accordance with to JAR-FCL 1, German. It was first issued on 24 August 1987 by the Luftfahrt-Bundesamt (German civil aviation authority, LBA). The licence carried the entries for A330 including Instrument Rating (IR) valid until 7 February 2014 and A340 including IR valid until 7 August 2013. In addition, he held the ratings for Single-Engine Piston (SEP) land and Touring Motor Glider (TMG) valid until 31 March 2014. He also held the instructor rating for private pilots and TMG ratings valid until 31 March 2013.

His class 1 medical certificate was valid until 26 September 2013. It included the restriction to wear glasses.

The pilot had a total flying experience of 17,693 hours. His flying experience on the type was 2,729 hours. In the last 90 days he had flown 184 hours. In the last 24 hours prior to the occurrence he had flown 10 hours.

The pilot deployed as Senior First Officer (SF) was 36 years old. He held an Air Transport Pilot's Licence (ATPL(A)) issued in accordance with to JAR-FCL 1, German. It was first issued on 17 August 2000 by the Luftfahrt-Bundesamt. The licence carried the entries for A330 including IR valid until 12 April 2014 and A340 including IR valid until 12 October 2013. He held the ratings for co-pilot and Pilot in Command Relief (PICR).

His class 1 medical certificate was valid until 10 February 2014 with the restriction to wear glasses.

¹ All times local, unless otherwise stated.

He had a total flying experience of 8,697 hours. His flying experience on the type was 4,186 hours. In the last 90 days he had flown 182 hours. In the last 24 hours prior to the occurrence he had flown 10 hours.

The co-pilot was 39 years old. He held an Air Transport Pilot's Licence (ATPL(A)) issued in accordance with to JAR-FCL 1, German. It was first issued on 06/08/1999 by the Luftfahrt-Bundesamt. The licence carried the entries for A330 including IR valid until 15 September 2013 and A340 including IR valid until 15 March 2014. He held the ratings for co-pilot and PICR.

His class 1 medical certificate without restrictions was valid until 30 March 2013.

He had a total flying experience of 9,332 hours. His flying experience on the type was 5,431 hours. In the last 90 days he had flown 218 hours. In the last 24 hours prior to the occurrence he had flown 10 hours.

Aircraft Information

The aircraft type Airbus A330-300 is a transport aircraft equipped with two Rolls Royce RB211 Trent 772B-60 engines. The airplane was manufactured in 2005 and had the manufacturer's serial number 701. It had a German certificate of registration and was operated by a German operator.

The airplane had a maximum take-off mass of 233,000 kg. At the time of the accident the aircraft had a take-off mass of 225,405 kg.

The airplane was equipped with a nose landing gear and two main landing gears underneath the wings. Until the occurrence, total operating time was 36,356 hours and one minute at 5,241 cycles.

Meteorological Information

During the day there was an onset of winter in Chicago including snow fall which was confirmed by the ATIS report of 2102 hrs. The crew stated the snow fall ceased while the airplane was de-iced. At the time of take-off the wind velocity was 010° at 12 kt.

Aerodrome Information

Chicago-O'Hare International Airport has seven runways. They are oriented: 04L – 22R, 04R – 22L, 14L – 32R, 14R – 32L, 09L – 7R, 09R – 27L and 10 – 28.

Runway 32R was used for take-off. It was an asphalt-covered runway with a length of 3,050 m (10,005 ft) and a width of 46 m (150 ft).

Flight Recorder

The flight data recorder recording was made available to the BFU for evaluation purposes.

Wreckage and Impact Information

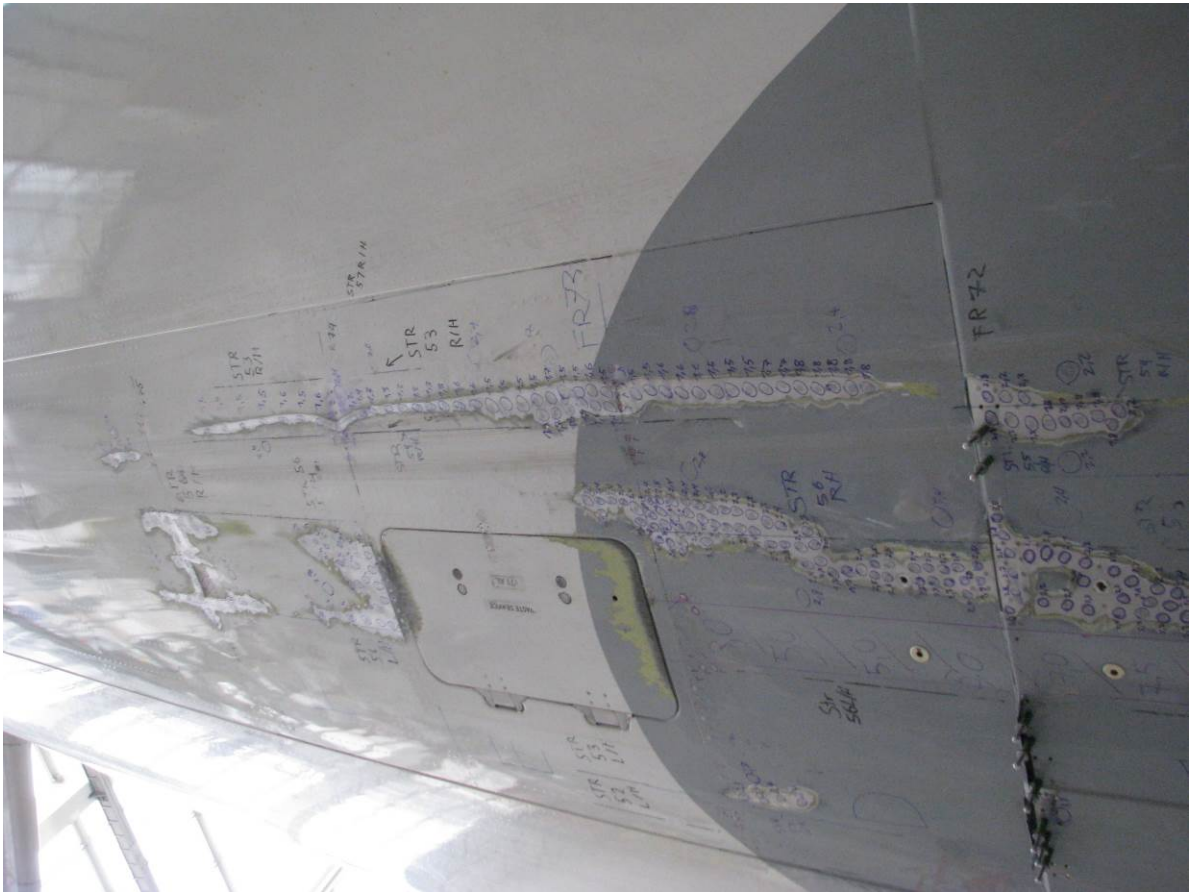
The outer damages on the airplane were found on the lower surface of the tail section. Affected were frames 69 to 76 with a length of about 4.5 m. Laterally the damage affected stringer 53 left up to stringer 53 right. The stringer at the lowest part of the fuselage is stringer 57. The area showed rub marks, scratches, paint abrasion and dents (Appendix). Several rivet heads were either partially or entirely abraded.

On the inside of the fuselage the web plates of stringer 57 between frames 69 and 73 were deformed (Appendix). The cross beams of frames 70 to 73, onto which the floor of the aft cargo compartment was mounted, were also deformed.

Parts of the mounting elements between the inner structure and the outer skin were either damaged or severed.

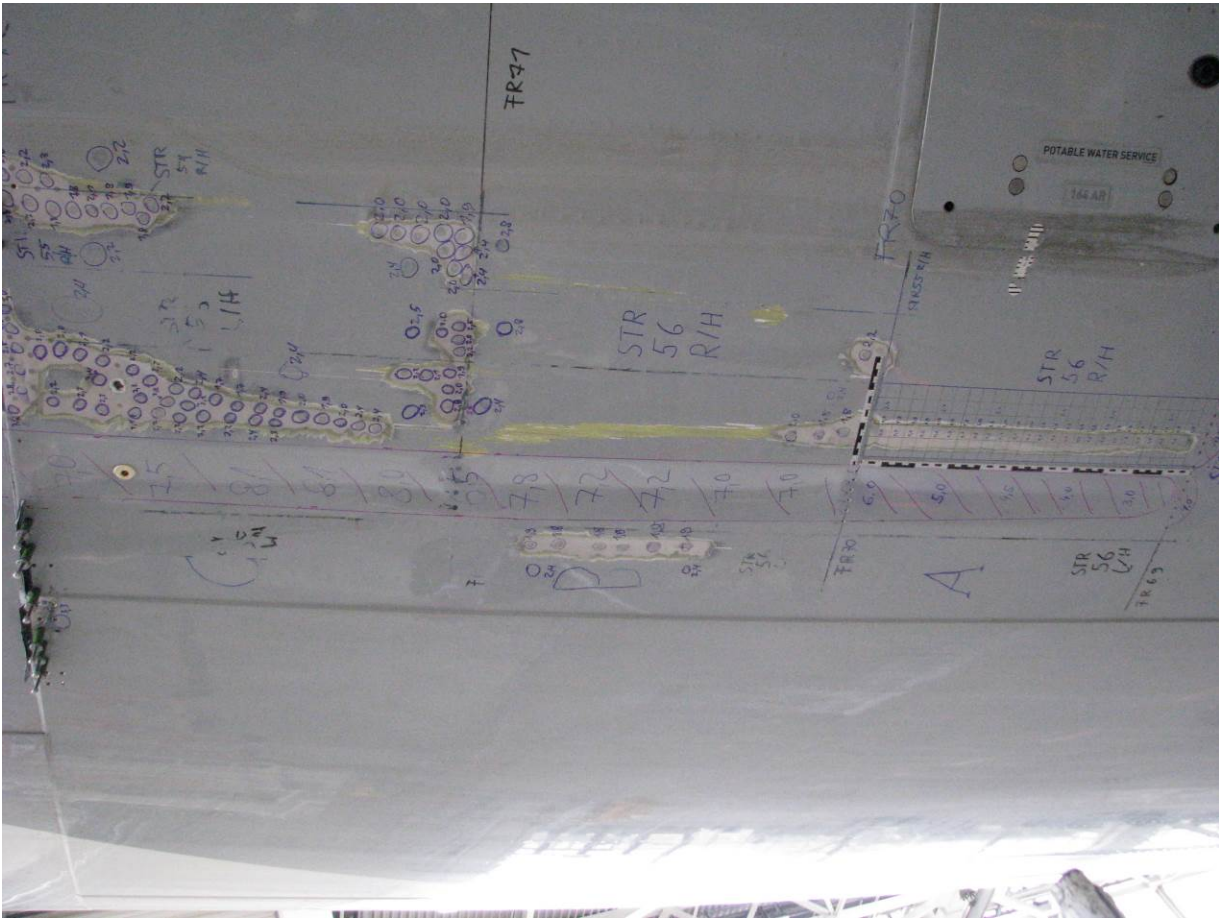
Investigator in charge: Dietmar Nehmsch

Appendices



Damages on the lower surface of the tail section (flight direction right)

Photo: BFU



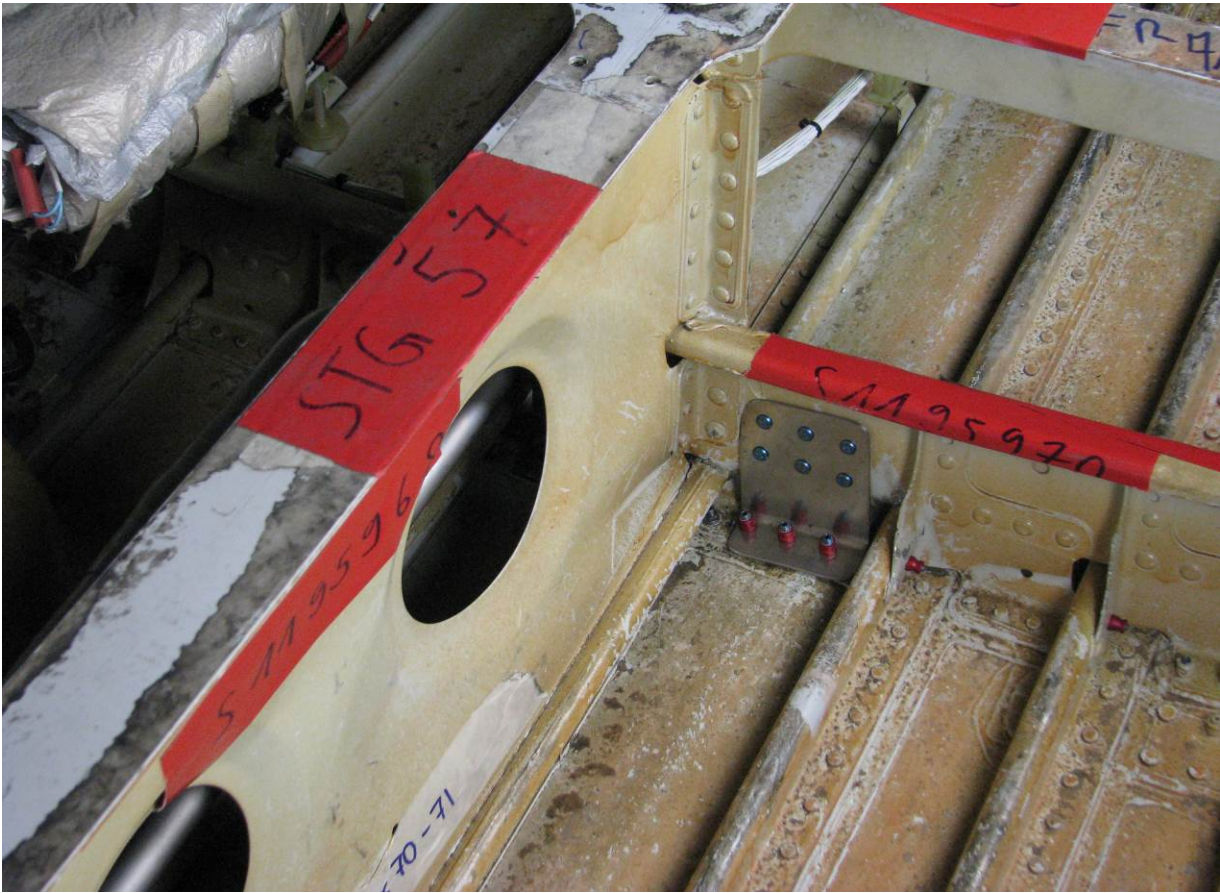
Damages on the lower surface of the tail section (flight direction right)

Photo: BFU



Damaged area inside the fuselage, in the foreground frame 68 (FR 68), in the middle stringer 57

Photo: BFU



Deformed web plate of stringer 57 between frames 70/71, temporary connecting element right of stringer 57 Photo: BFU^

This investigation is 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.

Published by:

Bundesstelle für
Flugunfalluntersuchung

Hermann-Blenk-Str. 16
38108 Braunschweig

Phone +49 531 35 48 - 0
Fax +49 531 35 48 – 246

Mail box@bfu-web.de
Internet www.bfu-web.de