

Investigation Report

Type of Occurrence:	Accident
Date:	10 August 2010
Location:	Winzeln-Schramberg
Aircraft:	1. Single-engine Aircraft 2. Sailplane
Manufacturer / Model:	1. Cessna / C F152 2. Glaser / DG 300
Injuries to Persons:	None
Damage:	Both aircraft seriously damaged
Other Damage:	None
Source of Information:	Investigation by BFU
State File Number:	3X117-10

Factual Information

History of the Flight

A Cessna F152 took off from Neuhausen ob Eck Airfield (EDSN) at 1651 hrs¹ for a flight under Visual Flight Rules (VFR) to Winzeln-Schramberg Airfield (EDTW). According to his own statement, at about 1400 hrs, the pilot had called the contact telephone number specified in the Aeronautical Information Publication Germany (AIP)

¹ All times local, unless otherwise stated

for Winzeln-Schramberg Airfield to request landing permission. At 1713 hrs, after a flight lasting about 22 minutes, the aircraft had reached a position about 3 km west of Winzeln-Schramberg Airfield, and by radio reported his pending arrival and landing. He subsequently described, that he reported entering the base leg to Runway 33 and then received the reply: "Land at own discretion". He read it back and asked during final approach once again: "Is the landing approved?" and received: "Approved" as an answer which he read back as "Approved".

At that same time, a group of sailplanes from the Netherlands was operating at Winzeln-Schramberg Airfield. At about 1715 hrs, a DG 300 sailplane was in the airfield glider circuit and preparing to land on the left adjacent glider Runway 33. The sailplane pilot subsequently stated that it had been his intention to land on the latter part of grass Runway 33 next to the hangars and reported via radio in a height of about 200 m with "In position for a long landing". He stated that this message had not been confirmed by the Flugleiter (A person required by German regulation at uncontrolled aerodromes to provide aerodrome information service to pilots). According to his statement he had overheard the radio communication between the Cessna and the Flugleiter and observed the approaching powered aircraft on final approach, alongside and to the right.

The Cessna pilot subsequently stated that at no time during the approach to land had he sight of a sailplane and during his approach to the airfield, he had not been advised as to the presence of sailplanes at the airfield.

Both pilots stated that the Cessna received the instruction from the Flugleiter for a "Go around" during final approach shortly before reaching the threshold. The glider pilot stated he had lost sight of the aircraft shortly before.

The Cessna pilot subsequently reported that after he had received the "Go around" instruction he had tried to maintaining height; after his aircraft had over-flown the runway threshold, he had experienced an impact from above. Following the collision, the Cessna F152 flew a shortened circuit to the right and then landed on the airfield.

The sailplane pilot also heard the instruction that the Cessna should go around. He subsequently stated that, at this time, he was unable to see the other aircraft. A few seconds after hearing this instruction he perceived the contact with the other aircraft and landed on the airfield. Both aircraft were seriously damaged by the collision, but there was no personal injury.

Personnel Information

Cessna F152

The 34 year-old pilot of the Cessna F152 was in possession of a private pilot's licence issued on 21 July 2010 and a German language flight radiotelephony operator's licence. His total flight time was about 60 hours, all on the Cessna F152. In the previous 90 days he had made 18 landings.

DG 300

The 34 year-old Netherlands pilot at the controls of the DG 300 held a glider pilot's licence issued on 17 August 2007. His total flight time was about 196 hours. In the previous 90 days he had completed 32 landings, of which nine were on the DG 300.

Aircraft Information

The DG 300 is a single-seat sailplane of composite material construction and was operated by a gliding club. The most recent annual inspection took place on 10 March 2010, following which it had flown about 66 hours.

The Cessna F152 is a two-seat aircraft of metal construction powered by a Lycoming O 235 L2C engine. At the time of the accident it had 12,837 total operating hours and the previous annual inspection had taken place on 31 March 2010.

Meteorological Information

At the time of the accident, the weather conditions were commensurate with Visual Flight Rules; CAVOK with the wind 300° and approx. 3 kt. There were no meteorological hazards.

Communications

There was radio contact between the air inspection officer and the two aircraft involved. Radio contact between the motor plane and the Flugleiter was mutual. The glider pilot stated he had not received any response from the FLugleiter during his report to land.

Aerodrome Information

Winzeln-Schramberg Airfield has a 704 m hard runway oriented 15/33. An adjacent grass runway is provided for sailplanes to the west of the hard runway.

Flight Recorders

The flight paths taken by both aircraft were recorded by their respective on-board GPS units. The Cessna F152 was fitted with a Garmin 496, while the DG 300 had a Flarm unit. The Cessna altitude and track were logged at rates of between six and 16 seconds. The DG 300 altitude and track were recorded at constant intervals of four seconds.

Wreckage and Impact Information

The collision between the two aircraft took place at a height of less than 50 m after they had overflown the threshold to Runway 33. The Cessna F152 fin and rudder were seriously damaged. There was further damage to the wing upper surface and cockpit glazing.



Damage to fin and rudder

Photo: BFU

The sailplane rear fuselage was seriously damaged just in front of the tailplane. There was further damage to the fuselage lower surface and in the vicinity of the landing gear.



Damage to rear fuselage, DG 300

Photo: BFU

Organisational and Management Information

On 23 March 2011, according to para 17 of the Law Relating to the Investigation into Accidents and Incidents Associated with the Operation of Civil Aircraft (FIUUG) the draft version of the report was sent out inviting all parties involved to comment. The club of the glider involved in the accident described in the statement of 16 Mai 2011 a significantly different version of the attempted landing of both aircraft. According to the club it is important that the final report should include "that glider operation has right of way over motor plane operation".

According to the statement of the Dutch pilots, the approach of the motor plane was not announced but they heard about it by radio. The written statement declares the Dutch Flugleiter had given the approaching Cessna pilot the information "Land at own discretion, pay attention to glider operation and already landed gliders" via radio.

The flight time 1516:16 UTC is now assigned to the position given in the statement for the instruction of the Flugleiter to the Cessna pilot to go around. It is stated that the instruction to go around was repeated several times, when it was noticed that both aircraft dangerously approximated each other.

After consultation with the glider pilot the fact that the asphalt runway was crossed twice is now explained as follows: Originally he had planned to execute a long landing on to asphalt runway so he could roll off to the right towards the hangars. When he caught sight of the Cessna he changed his plans to a long landing.

Excerpt Statement Club: "At first he had wanted to land to the right (north) of the asphalt runway and therefore crossed the runway for the first time. He very soon realized the space to the right of the runway was not suitable because of obstacles. Therefore he decided to land south of the asphalt runway on the grass runway and as far back as possible to give the Cessna, which he could no longer see, enough space. So he crossed the runway a second time."

Analysis

Both pilots were properly licensed. The Cessna pilot was inexperienced, having been granted his licence as recently as June 2010. However, he had completed 18 landings in the previous 90 days and was therefore in sufficient current practice.

The DG 300 pilot had been granted his license three years previously. He had flown 196 hours and was therefore still relatively inexperienced as a sailplane pilot. How-

ever, he had completed 32 landings in the previous 90 days and was therefore also in sufficient current practice.

Both aircraft were correctly registered. The post-accident airframe investigation found no technical shortcomings.

There were good visual flight conditions during the approach to Winzeln-Schramberg Airfield. The Flugleiter and the approaching Cessna established radio contact in due time. The Cessna pilot remembers that he did not get any further information regarding glider operation when he received the clearance to land at own discretion.

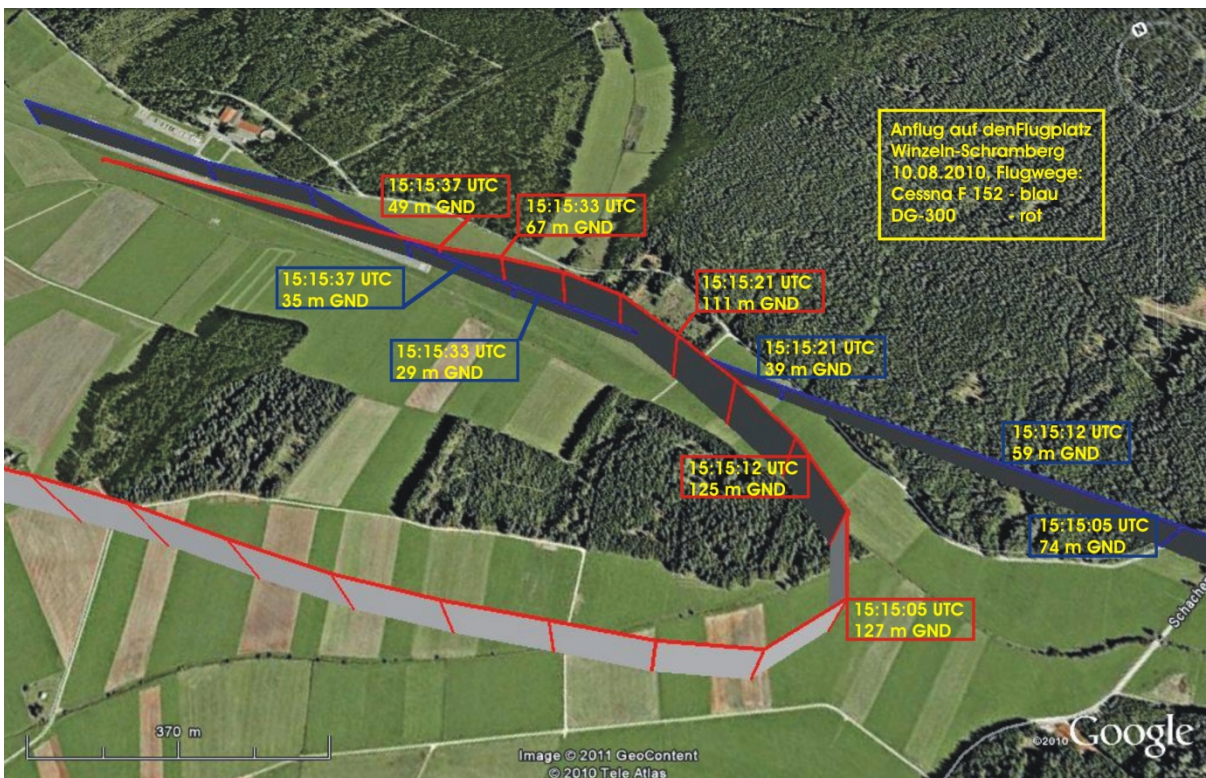
The glider pilot did not receive an answer or acknowledgement to his message "Position for a long landing". He stated that he did not receive direct traffic information concerning the approaching Cessna from the Flugleiter. Since he listened to the radio communication he knew about the approaching Cessna with the intention to land. As he entered final approach he saw the Cessna to his right and below him.

When the Flugleiter realised that both aircraft in final approach would approximate each other dangerously the Cessna received the instruction to go around. Both pilots assume in their statements that there had been only one instruction to go around. The position of the aircraft was shortly before reaching the threshold.

The sequence of events leading to the collision was determined by evaluation of the Flight Data Recorders. During the latter part of its flight, at 1705:05 hrs the sailplane was about 900 m southwest of the threshold to Runway 33 and in the final turn to approach and landing. At this time, the sailplane was about 127 m above ground.

At the same moment, the Cessna was about 1,200 m from the threshold on extended final approach to Runway 33 and about 74 m above ground. At this time, the aircraft were separated by about 500 m with a height difference of more than 50 m. Given their respective flight paths at this moment, it would have been possible for both pilots to see the other aircraft. In his post-accident statement, the DG 300 pilot said that during his final approach to land he had seen the Cessna flying alongside.

The flight path image shows that this observation would only have been possible prior to 1715:12 hrs.



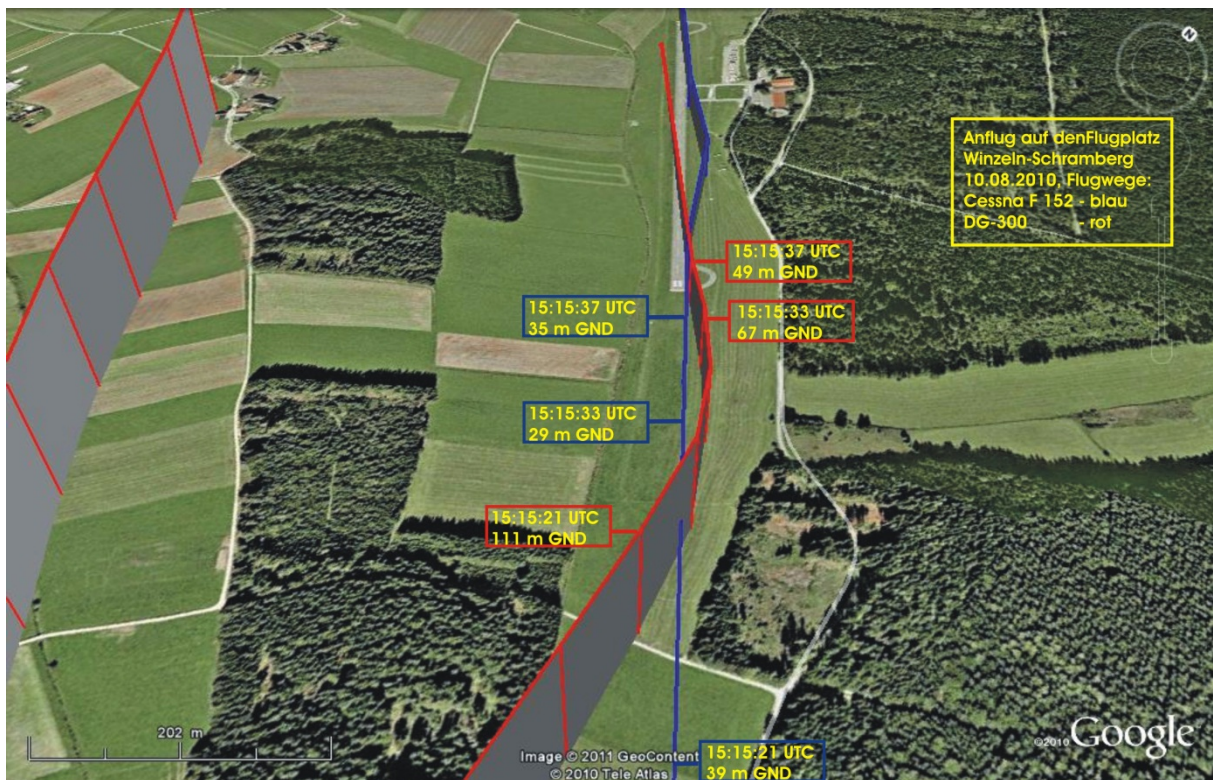
Reconstruction of the flight paths

Source: BFU

Thereafter, the Cessna disappeared from the sailplane pilot's field of view. At 1715:21 hrs, both aircraft neared each other during their approach to land at the airfield with horizontal and vertical separation of 120 m and 70 m respectively, with neither pilot able to see the other aircraft. The sailplane was above and in front of the Cessna, which was behind and below the sailplane pilot's field of view. The Cessna's high wing concealed the pilot's upward view and close proximity to the sailplane.

The sailplane's flight path then took it to the north through the hard runway extended centreline, even though the pilot's intention was to land on the southerly grass runway used by sailplanes.

The spatial proximity of each aircraft to the other continued to decrease, and neither pilot could see the other aircraft. The sailplane then corrected heading west towards the more southerly grass runway, again crossing the extended centreline of hard Runway 33.



Reconstruction of the flight paths

Source: BFU

Between 1715:33 hrs and 1715:37 hrs the Cessna pilot followed the air inspection officer's instruction to go-around; he terminated the approach to land and according to his own statement tried to maintain height. However, given the Cessna's higher approach speed it caught up with the sailplane from behind without the pilot realising it. Shortly after crossing the threshold to hard Runway 33 and at a height of about 40 m above ground, the two aircraft collided at about 1715:38 hrs without visual contact with each other.

According to Air Traffic Order (LuftVO) para 13 the glider had the right of way during the simultaneous approach to land of the two aircraft. The right of way of glider operation over motor plane operation is according to German law not explicitly stated. Right of way rules presume that pilots act on the general rule "See and avoid". Air Traffic Order para 13 subpara 9 does not absolve pilots of their responsibility to act in a way that a collision is prevented.

The damage on the two aircraft revealed that the absence of personal injury or worse could only be described as pure luck.

Conclusion

The accident was due to the fact that the two aircraft, which were on simultaneous approach to land, suffered an air prox which went undetected by either pilot.

The unnoticed air prox was facilitated by insufficient communication between the Flugleiter and the approaching aircraft. The Flugleiter noticed the apparent approach situation of the two aircraft too late.

Both aircraft collided even though the glider had seen the approaching motor plane and had been informed of the intention to land via radio. The glider coming from a higher position crossed the extended runway centreline of runway 33 twice in front of the approaching motor plane.

Investigator in charge: Stahlkopf
Assistance: Lampert
Field investigation: Pilz
Braunschweig: 23 March 2011

This investigation was conducted in accordance with 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

Telefon 0 531 35 48 - 0
Telefax 0 531 35 48 - 246

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