

Final Report

CX001-0/00
June 2001

Factual Information

Type of Occurrence:	Accident
Date:	February 24, 2000
Location:	Sundern
Aircraft:	Aircraft
Manufacturer, Model:	Extra EA 300
Injuries to Persons:	one person fatally injured
Damage:	Aircraft destroyed
Other Damage:	Damage to crops

History of flight

On the day of the accident two new aircraft Extra EA 300 were to be ferried from the manufacturer at Dinslaken to Rumania. For this purpose two pilots of the Rumanian airports association had arrived several days before. The planned first stop on the ferry flight, which was to be performed under visual flight rules (VFR), was Nürnberg. After the departure, which had originally been scheduled for the morning of the day of the accident, had to be postponed due to bad weather, both aeroplanes departed Dinslaken airfield in loose formation at 15:00 hours.

Approximately 45 minutes after departure one of the aeroplanes touched the tops of the trees of a high forest on a mountain ridge near the village of Sundern/Sauerland and crashed on the ground. In the course of the accident the pilot was killed and the aeroplane destroyed. Furthermore damage to the forest resulted from the accident.

The other aeroplane landed safely at the special airfield Schmallebenberg-Rennefeld.

Investigation

The accident was investigated by two commissioners.

The accident site was on the northwest side of a wooded range of hills near Sundern-Endorf at an elevation of 1485 ft. According to the traces found and the distribution of the wreckage over a length of 120 m, the aeroplane hit the trees in straight and level flight without a significant flight path angle at a medium to high speed. As a result of the collision with several trees both wings as well as sections of the tail unit were torn off before the fuselage contacted the ground. Even though the fuselage was deformed it was nearly undamaged in the cockpit area.

During the technical investigations there was no indication of a technical failure which could be taken into account as a cause of the accident.

The aeroplane had been observed by numerous witnesses when it flew at an extremely low level over various parts of the village of Sundern. According to the statements it flew several 360° turns and for a short time disappeared in the clouds. Being questioned about the weather the witnesses stated that there was drizzle with poor visibility. One forest worker, who had been near the accident site, reported that there was thick fog.

In order to exactly clear up the weather situation at the moment of the accident, an expertise from the German Meteorological Service (DWD) was sought. The following information is an excerpt from this expertise.

On the day of the accident Germany was under the influence of a frontal system extending from a low in the

Northeast of Iceland across Scandinavia and the Baltic Sea to Central Europe. With a strong westerly high altitude flow mild and cloudy maritime air was approaching from the Atlantic Ocean.

In connection with the intensification of a new low over the South of England, the cold front, which still lay to the North of the River Main, became nearly stationary in the late afternoon. With the cloud layer scattered to closed and a widespread zero base in the low mountain range area, light to moderate precipitations in the form of rain and/or drizzle temporarily occurred in the area concerned. Above approximately 800 to 900 m MSL precipitations initially were still mixed with snow.

At the time the aeroplanes took off, the place of departure Dinslaken was already at the rear of the cold front. On the first route section up to the Northern edge of the Sauerland the ceiling was approximately 4000 ft MSL. Below the ceiling there were at least partly 1/8 to 3/8 cumulus/stratocumulus clouds with a base between approximately 2000 and 2500 ft MSL. With the cold front approaching the cloud conditions over the Sauerland deteriorated rapidly. At the time of the accident the ceiling (7/8 to 8/8 stratus) was between 1200 and 1500 ft MSL. Below this ceiling there were individual bits of stratus clouds whose base may have been at least partly between 800 and 1000 ft MSL. At the time of the accident, the accident site, which has an elevation of 1800 ft, was in clouds. From time to time there was light rain or drizzle.

On February 24, 2000 none of the two pilots sought an individual meteorological forecast from the advisory centres for aviation of the German Meteorological Service. It could not be found out if the phone information service INFOMET had been used or if weather documents had been requested by fax. Approximately one hour prior to the departure a meteorological warning (AIRMET) had been issued indicating that in the mountainous region the clouds reached the ground.

The pilot of the second aeroplane reported that prior to their departure from Dinslaken they had observed the weather conditions on a satellite picture at a computer and that they had sought information from Köln-Bonn airport about the weather in Nürnberg. In this context he submitted notes containing the following weather forecast for the period from 1400 to 2100 hrs: Wind 200° 12 kt, visibility more than 10 km, scattered clouds at 2500 ft, moderate rain, between 1500 and 2000 hrs visibility 4 km with a 40% probability, scattered clouds at 1000 ft. As the satellite picture showed 'dark spots' over the Sauerland they had decided to depart and planned for the case of a deterioration of the weather to land on the next aerodrome within reach.

In the wreckage of the accidented aeroplane weather documentation printed out by means of a computer had been found. This documentation was the so-called 'Significant Weather Chart below 10000 ft' valid for 24.02.01 from 0000 - 0900 hrs UTC. It is a chart showing the weather prognosis below 10000 ft. This chart

showed the course of the frontal system and its direction of movement, which corresponded to the actual weather conditions during the day. In addition there was an aviation weather summary in German language the contents of which correspond to the specifications in the meteorological expertise and a listing of relevant weather reports and forecasts for several aerodromes along the flight route as well as several weather warnings one of which warned of clouds down to the ground in the mountainous regions of the Northern and Western part of the flight information region (FIR) Frankfurt above 2000 ft MSL.

According to the documents found in the wreckage the planned navigational checkpoints for the flight route to Nürnberg were the radio navigation system VOR Dortmund (DOM) as well as the aerodromes Meschede-Schüren, Allendorf/Eder, Lauterbach, Bad Neustadt and Ebern-Schendelbach. According to the statement made by the pilot of the second aeroplane the flight had actually been accomplished along this route. After the entry into the range of the hills of the Sauerland radio communication between the two aeroplanes got lost after it had been tried in vain to contact the aerodrome Meschede-Schüren on the aerodrome frequency.

The pilot in command held a commercial pilot licence, initially issued on December 12, 1999 by the Romanian civil aviation authority. His total flight experience was 3660 hours 100 hours of which were accumulated on the Extra 300. He did not hold an instrument rating. An autopsy was performed on the dead body of the pilot. The autopsy did not reveal any findings indicating a restricted ability of action caused by incapacitation, alcohol, drugs or carbon monoxide.

The aeroplane type Extra EA300 is a single-engine single seater low wing monoplane with a non-retractable tail wheel landing gear in metal/wood construction. This type is intended exclusively for aerobatics.

Thus both aeroplanes were not equipped with gyro instruments to indicate the flight attitude

Analysis

According to the traces at the accident site, the aeroplane collided in straight and level flight with rising terrain. In connection with the statements of witnesses, who had observed the aeroplane flying at an extremely low level prior to the accident, and the weather information according to which the clouds in the Sauerland reached down to the ground, it is assumed almost certainly that the pilot flying near the ground did not notice the range of hills in the clouds in front of him and thus collided with it.

According to the meteorological expertise, Dinslaken was at the time of departure at the rear of the front with

good visual meteorological conditions. On the flight route selected both aeroplanes then caught up with the cold front, which at that time was over the Sauerland producing meteorological conditions which were far below the minima for flights under visual flight rules. On the route section between the VOR Dortmund and Meschede there would have been a series of aerodromes which in case of a deterioration of the weather could have been chosen for an intermediate stop prior to the entry into the mountainous region.

Based on the research of the German Meteorological Service no personal or telephone meteorological forecast had been sought prior to the flight. In contrast to this, the pilot of the second aeroplane stated that prior to their departure they had phoned Köln-Bonn airport to get information about the weather in Nürnberg. This discrepancy can be explained from the fact that the meteorologists in the advisory centres for aviation of the German Meteorological Service put callers who do not ask for a meteorological forecast but ask for specific weather reports through to an INFOMET Station without the call being recorded. From the documents found in the aeroplane it could have been seen clearly that in the mountainous region difficult meteorological conditions had to be expected. It is to be supposed that most probably none of the two pilots was in a position to interpret the meteorological summary written in German and the meteorological charts and warnings published in English but containing special abbreviations and symbols.

The pilot in command had relatively much flight experience, but did not hold an instrument rating. In addition the aeroplane was not equipped with instruments required for flying in clouds.

Conclusions

The accident was caused by the fact that the pilot in command tried to continue the flight under visual flight rules with clouds down to the ground in a mountainous region and thus collided with a range of hills covered by clouds.

Investigator in Charge Hasenfuß