

ACCIDENT

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| Aircraft Type and Registration: | X'air Falcon 700(1), G-CFIP |
| No & Type of Engines: | 1 HKS 700E piston engine |
| Year of Manufacture: | 2007 (Serial no: BMAA/HB/540) |
| Date & Time (UTC): | 7 March 2012 at 1157 hrs |
| Location: | Private airstrip near Kilkeel, Northern Ireland |
| Type of Flight: | Private |
| Persons on Board: | Crew - 1 Passengers - None |
| Injuries: | Crew - 1 (Serious) Passengers - N/A |
| Nature of Damage: | The aircraft was extensively damaged |
| Commander's Licence: | Private Pilot's Licence |
| Commander's Age: | 50 years |
| Commander's Flying Experience: | 6,791 hours (of which 30 were on type) Last 90 days - 36 hours Last 28 days - 1 hour |
| Information Source: | Aircraft Accident Report Form submitted by the pilot and weather information supplied by the Met Office |

Synopsis

The pilot initiated a diversion to a private airstrip to refuel but this became a weather diversion as conditions deteriorated. A strong westerly wind was blowing across the north-south airstrip, creating turbulence at low level. The pilot discontinued two approaches, due to wind and turbulence, and lost control on the third landing attempt. The aircraft crashed adjacent to the airstrip and the pilot suffered serious injuries.

History of the flight

The pilot reported that his planned flight from Granard Airfield in County Longford, Republic of Ireland, to Newtownards Airfield, in Northern Ireland to the east of Belfast, had been delayed from the previous day

due to unfavourable weather. On the day of the flight, the forecast visibility was good with medium level cloud and, although the forecast wind was still strong (averaging 20 kt, the pilot reported), it was a westerly and therefore considered favourable.

Having checked the actual weather conditions at the Belfast and Dublin Airports, on the morning of the flight up to the time of his departure, the pilot was also contacted by the aircraft owner in Northern Ireland, who passed him a wind speed at Newtownards of 14 kt, good visibility and small amounts of cloud at 2,900 ft. The pilot decided the weather was suitable for the planned flight.

The aircraft was fuelled with 32 litres of fuel. The pilot was advised that this reduced fuel load was in consideration of the expected degraded takeoff performance from the runway at Granard, which was described as ‘soggy’, with the initial 100 m unuseable due to waterlogging. The pilot would have preferred a full load of 57 litres and was concerned that the fuel may be insufficient, but a private airstrip at Kilkeel was identified as an en-route alternate airfield for fuel if required.

The aircraft took off from Granard at 1053 hrs. The pilot had two possible routes in mind and had decided to make a final decision on which to take once airborne. He initially set a course towards Newry but, on seeing stormy weather conditions close to his intended track and being unsure of how much fuel had been used, decided to divert to Kilkeel. His revised route took the aircraft north of Dundalk towards the coast, then across the entrance to Carlingford Lough, keeping higher ground to the north and west. Crossing the lough, wind speed appeared to increase and turbulence became severe, so the pilot began to view Kilkeel as a weather diversion instead of a technical stop for fuel.

The grass airstrip at Kilkeel was about 320 m long and orientated north-south. The airstrip was on the coastal plain, at an elevation of about 90 ft amsl. With a considerable westerly wind blowing, the pilot commenced an approach to the northerly runway but was forced to discontinue it at a late stage when he encountered severe turbulence. He then positioned the aircraft for an approach to the southerly runway but had to discontinue that too because of the gusty wind and turbulence. He then positioned for the third approach, again to the northerly runway, in what he felt were less windy conditions.

At about 30 ft above the ground on short finals, the pilot sensed an increase in wind speed and turbulence. The aircraft began a roll to the right, which the pilot was unable to correct with aileron. He considered that a go-around was not possible due to the angle of bank and available engine power. His last recollection was of the aircraft rolling about 90° to the right and seeing the ground rapidly rising to meet him through the forward windscreen.

The aircraft crashed in the foundations of a partly built house. Despite suffering serious injuries, the pilot quickly extricated himself from the wreckage and was joined by eyewitnesses who administered first aid. One of the witnesses, who had seen the aircraft shortly before the accident, described it appearing to struggle in the strong wind and, seemingly, hovering in the air. The weather conditions deteriorated immediately after the accident, with heavy hail falling.

An eyewitness reported the accident to the Northern Ireland Fire and Rescue Service who arrived on scene at 1220 hrs.

In his report, the pilot noted that he had initially underestimated the strength of the wind, based on the windsock at the airstrip, and believed the winds were in the region of 15 kt. The crosswind limit placarded in the cockpit was 25 kph/15 mph (about 13 kt). He also noted that he had failed to appreciate that deteriorating weather was approaching rapidly from the west, which may have added to the levels of turbulence and led to unusual wind effects.

Meteorological information

The AAIB obtained aviation forecast material, issued by the UK Met Office the evening before and early on the day of the accident, that was available on-line

for flight planning purposes. The area was situated in a strong westerly airflow behind a cold front which ran from North Wales to the Lake District and south-east Scotland. Until mid-morning, good visibility was forecast, reducing to 5,000 m in occasional showers of rain, snow and hail. An area of worsening weather to the north-west was forecast to encroach on the intended route by about midday. In this area, in addition to the previously mentioned weather, isolated heavy thunderstorms and hail were forecast, with visibility reducing to 2,000 m or even 1,000 m in snow showers.

Very strong westerly winds of up to 45 kt at 1,000 ft had blown through the area overnight and were affecting northern England early on the day of the

accident. The forecast winds along the intended flight were from 280° at 30 to 35 kt at 1,000 ft amsl, increasing to 40 kt at 2,000 ft.

Conclusion

At the time of the accident, the airfield at Kilkeel, with its north-south runway and forecast crosswinds of 30 to 35 kt only 1,000 ft above the runway, was an unsuitable diversion for a light aircraft with a 13 kt crosswind limit. Several factors contributed to the accident, beginning at the flight planning stage, when forecast weather conditions for the intended route were available. The pilot was eventually faced with a landing in conditions outside the aircraft's normal operating limits.