ACCIDENT

Aircraft Type and Registration:	Czaw SportCruiser, G-CFPA
No & Type of Engines:	1 Rotax 912 ULS piston engine
Year of Manufacture:	2008
Date & Time (UTC):	2 October 2010 at 1115 hrs
Location:	East Fortune Airfield, Scotland
Type of Flight:	Private
Persons on Board:	Crew - 1 Passengers - None
Injuries:	Crew - None Passengers - N/A
Nature of Damage:	Damage to leading edge of right wing, aileron and flap, propeller and wheel spat
Commander's Licence:	Private Pilot's Licence
Commander's Age:	33 years
Commander's Flying Experience:	245 hours (of which 86 were on type) Last 90 days - 22 hours Last 28 days - 9 hours
Information Source:	Aircraft Accident Report Form submitted by the pilot

Synopsis

Due to the prevailing winds, the pilot decided to land the aircraft on a grass area adjacent to the two published runways. The grass area was wet and approximately 190 m in length. During the landing roll he was unable to the stop the aircraft before striking a wire fence. The pilot was uninjured and vacated the aircraft. He had previously landed a flex-wing microlight on the same area, but not G-CFPA. There were no published dimensions of the grass area. The pilot considered that he should have aborted the landing and waited for the wind to reduce before landing on Runway 29, which was 450 m in length and of part-concrete construction. The Pilot's Operating Handbook (POH) stated that the landing distance from 50 ft on grass was 170 m and 180 m on concrete. An airtest conducted in support of the permit to fly detailed the landing distance from 50 ft as 327 m on a tarmac runway. The Light Aircraft Association (LAA) advised that it plans to review the POH with regards to landing distance performance. The airfield operator advised that it would review the publication of additional airfield information.

History of the flight

The pilot had flown from Plockton Airfield to East Fortune Airfield (see Figure 1). East Fortune Airfield has two unlicensed runways. Runway 07/25 is a grass runway of 250 m in length and Runway 11/29 is 450 m in length, with the first 350 m of Runway 29 being

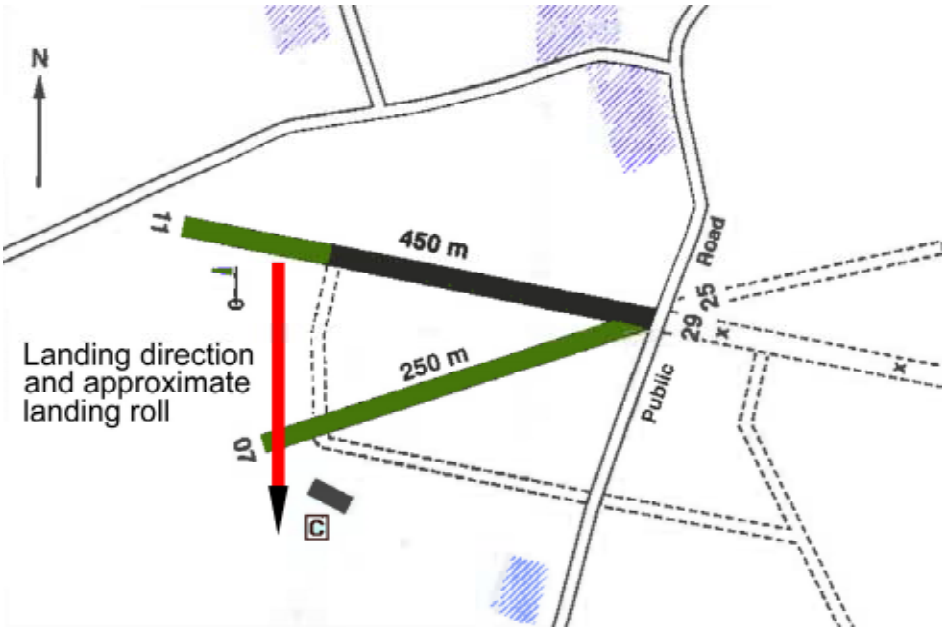

Figure 1

G-CFPA Landing direction and approximate landing roll

of concrete construction and the remaining 100 m grass. Near to the threshold of Runway 07 and 11 is a concrete taxiway running almost north-south, adjacent to which is a mown grass area of approximately 20 m in width and 190 m in length. At the southern end of the grass area, near the threshold of Runway 07, was an area of light vegetation bounded by a wire fence. The pilot had previously flown flex-wing microlights at the airfield and, when operating with strong northerly or southerly winds, he and other flex-wing microlights had occasionally used the grass area for landing. He had also previously landed G-CFPA at East Fortune, but not on the north-south grass area. The airfield operator advised that it was aware that the area was occasionally used for landing, but had not published information on it.

The reported wind was from 200º at between 6 to 8 kt, gusting 14 kt. Conscious that landing on either of the two published runways would put him near to, or in excess of, the aircraft's 12 kt crosswind limit, the pilot decided to land in a southerly direction on the grass area. The final approach appeared normal, flown at about 50 kt with full flap selected, but shortly before touchdown, he noticed that the wind speed had reduced. The pilot stated that his groundspeed was higher than expected and upon touchdown he had applied heavier than normal braking. Both mainwheels subsequently locked and the aircraft skidded. The aircraft is equipped with a castering nosewheel, with main directional control on the ground accomplished by differential mainwheel braking. As the aircraft neared the end of the grass area, he attempted to turn the aircraft, but it continued straight ahead before striking the wire fence, which caused the engine to stop and the aircraft to come to a halt. The pilot was uninjured and exited unaided through the canopy door. The propeller, right wheel spat, right wing leading edge, aileron and flap were damaged.

The POH stated that, under ISA conditions at a maximum landing weight (MLW) of 600 kg, for an

average pilot, the 50 ft landing distance on a grass runway was 170 m and 180 m on concrete. The POH did not advise whether any special techniques should be used, such as maximum brake application. In 2007, the Popular Flying Association (now the Light Aircraft Association) required flight tests of the SportCruiser to evaluate its suitability for issue of a UK permit to fly, which was subsequently granted. From the flight test report, at just less than MLW (598 kg) and using normal braking, the landing distance from 50 ft on a tarmac runway was recorded as 327 m. The approximate landing weight of G-CFPA was 490 kg for the accident flight. The POH did not provide landing performance data for weights of less than MLW. Following the accident, the LAA advised that it planned to review the POH with regards to landing distance performance.

The area used for landing was reported as being both wet and soft at the time of the accident. The CAA Safety Sense Leaflet 07 provides guidance on aircraft performance and recommended factors to be applied to performance data. It states:

> *'Landing on a wet surface, or snow, can result in increased ground roll, despite increased rolling resistance. Tyre friction reduces, as does the amount of braking possible. Very short wet grass with a firm subsoil will be slippery and can give a 60% distance increase (1.6 factor).'*

It also recommends that for soft ground a factor of 1.25 or more should be applied, and strongly recommends that the Public Transport factor of 1.43 be applied to non-factored data to take account, amongst other things, of less than favourable conditions or incorrect speeds or techniques. Applying CAA recommended safety factors to the POH data would have required a 50 ft landing distance in excess of the 190 m available.

The pilot considered that he should have aborted the landing and, having established that the winds were within crosswind limits, landed on Runway 29. To assist pilots in determining the suitability of the grass areas for landing, the airfield operator advised that it would review the publication of additional airfield information.