ACCIDENT

Aircraft Type and Registration:	Kolb Twinstar Mk3 (Modified), G-BYTA
No & Type of Engines:	1 Rotax 582 piston engine
Year of Manufacture:	2000
Date & Time (UTC):	16 November 2007 at 1450 hrs
Location:	Kilkeel, County Down, Northern Ireland
Type of Flight:	Private
Persons on Board:	Crew - 1 Passengers - 1
Injuries:	Crew - 1 (Minor) Passengers - 1 (Minor)
Nature of Damage:	Aircraft damaged beyond economic repair
Commander's Licence:	National Private Pilot's Licence
Commander's Age:	53 years
Commander's Flying Experience:	37 hours (all of which were on type) Last 90 days - 0 hours Last 28 days - 0 hours
Information Source:	Aircraft Accident Report Form submitted by the pilot and meteorological aftercast provided by the Met Office

Synopsis

About 10 to 15 minutes after takeoff the engine failed. During the forced landing the aircraft encountered an area of 'sink' and collided with a hedgerow that contained an embedded barbed wire fence.

History of the flight

The accident flight was a continuation of an exercise that had started with a flight that morning. About 10 to 15 minutes after takeoff, the pilot, who was also the owner, noticed that the left exhaust gas temperature gauge was falling towards zero. He immediately turned the aircraft towards the airfield and informed his passenger, who was an experienced pilot. The aircraft flew towards the airfield for about 10 to 15 seconds, when the engine stopped. The pilot handed control of the aircraft to his passenger, as he was considerably more experienced as a pilot and had more recent flying practice. He immediately turned the aircraft into wind towards a large field; the only one within gliding range that did not contain livestock. The glide approach was progressing very well until the aircraft was about 20 to 30 feet from the field boundary when they encountered an area of 'sink'. This resulted in the aircraft colliding with the field's boundary hedgerow. The hedgerow was mounted on a raised bank and had a barbed wire fence embedded within it. Both the pilot and his passenger received minor injuries and were admitted to hospital.

Engineering investigation

A friend of the pilot removed the aircraft from the accident site. During this removal he noted that there was a reasonable quantity of fuel in the tank and that the engine was free to rotate. A few days after being released from hospital the pilot inspected the aircraft and, from external inspection, could find no reason why the engine had failed. He successfully started and ran the engine and no fault was found. In his opinion the engine failed due to the build-up of icing within the carburettor.

Meteorological aftercast

A meteorological aftercast was obtained from the Met Office for the area and date of the accident. There was a high pressure system centred over the Cherbourg Peninsula which resulted in a light to moderate south-westerly flow over Northern Ireland. Although there were no fronts, slight precipitation was recorded over the west of Northern Ireland and a layer of stratocumulus covered the area. The following temperatures and humidity were recorded from a radiosonde ascent that was launched, at 1115 hrs GMT, into the same air mass that prevailed over the accident site at the time of the accident.

Height amsl ft	Temp °C	Dew point °C	Humidity %
515	8.7	6.2	84
751	8.5	5.9	83
1020	8.8	5.1	77
1512	7.7	4.1	78
1995	6.9	3.3	78

These temperature and humidity readings were plotted on a carburettor icing probability chart and the result, shown at Figure 1, indicates that there was a possibility of serious icing at any power.
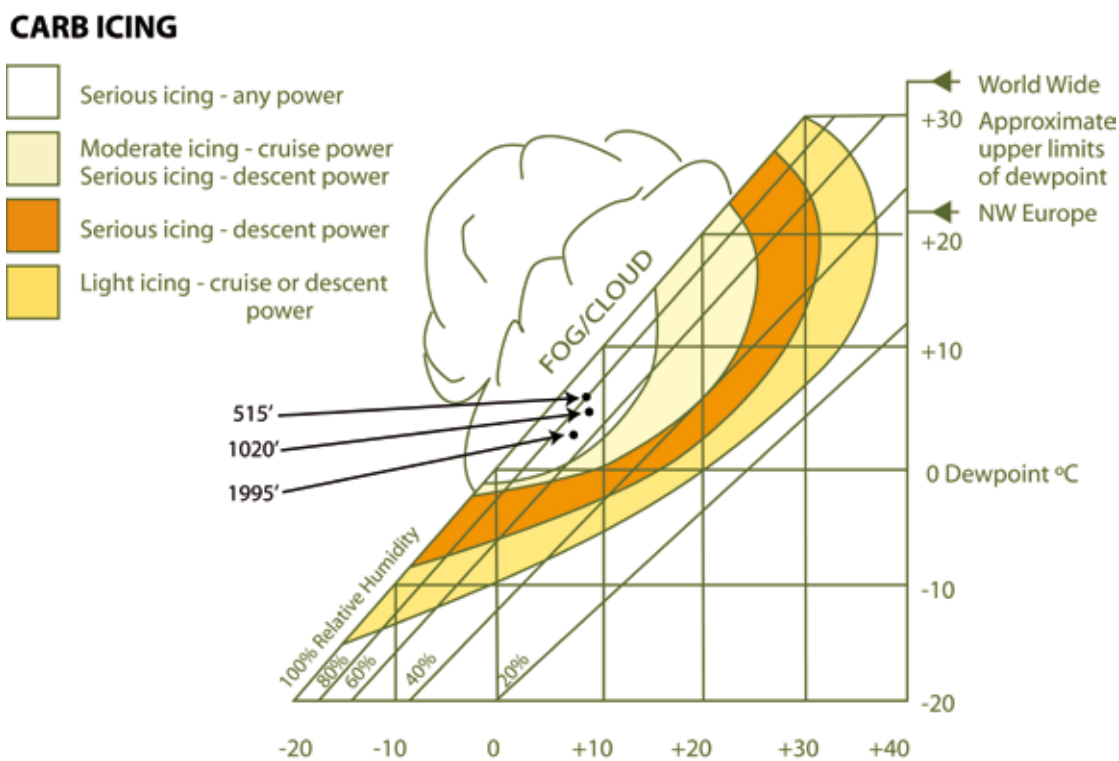

Figure 1

Carburettor Icing Probability Chart

Chart taken from:
CAA Safety Sense Leaflet No 14b