ACCIDENT

Aircraft Type and Registration:	Cirrus SR22, N844MS
No & Type of Engines:	1 Continental Motors TS10-550-K piston engine
Year of Manufacture:	2013 (Serial no: 0630)
Date & Time (UTC):	25 November 2017 at 1140 hrs
Location:	Approximately 1.5 km east of Runway 28, Sherburn-in-Elmet Airfield
Type of Flight:	Private
Persons on Board:	Crew - 1 Passengers - 1
Injuries:	Crew - 1 (Serious) Passengers - 1 (Serious)
Nature of Damage:	Aircraft damaged beyond economic repair
Commander's Licence:	Private Pilot's Licence
Commander's Age:	60 years
Commander's Flying Experience:	1,348 hours (of which 271 were on type) Last 90 days - 14 hours Last 28 days - 7 hours
Information Source:	Aircraft Accident Report Form submitted by the pilot and recorded data recovered by a maintenance organisation from the Garmin manufactured G1000 integrated flight instrumentation system

Synopsis

The aircraft stalled after becoming slow during a turn to avoid other air traffic and struck the ground, seriously injuring both occupants.

History of flight

The aircraft was owned by a small syndicate of pilots and on the day of the accident two of its members had flown the aircraft from Oxford to Leeds East Airport. After an uneventful flight they decided to fly the short distance to Sherburn-in-Elmet Airfield for lunch before returning to Oxford. They took it in turns to fly, one of the two part-owners flying the aircraft from Oxford and the other then flying the leg to Sherburn-in-Elmet.

The weather at the time was reported as good, with a westerly wind of about 11 kt, scattered cloud base of 3,000 ft and visibility in excess of 10 km. The aircraft took off from Leeds East Airport at 1134 hrs and flew the short distance to Sherburn-in-Elmet Airfield, climbing to about 2,000 ft aal. A call was made to Sherburn-in-Elmet air ground station on the way but the pilot cannot recall what information was passed on the radio, particularly in relation to other aircraft operating in the circuit.

The pilot positioned onto the downwind leg at a height of about 1,000 ft aal and an airspeed of about 100 kt. He then became aware of an aircraft in the circuit ahead of him and began to reduce speed. The aircraft turned onto finals for Runway 28 at a height of about 700 ft aal and an airspeed of about 90 kt. The pilot continued to reduce speed to about 77 kt but realised the aircraft were too close to be able to land in turn and, in order to increase separation, levelled his aircraft at about 500 ft aal and commenced an orbit to the left.

The pilot reported he was about a quarter of the way round the turn when he became aware of another aircraft in the circuit on the downwind leg. In order to avoid this aircraft, the pilot increased the bank angle, the data[1] recording a maximum bank angle of 47° at an airspeed of about 74 kt and a height of 460 ft aal[2]. The pilot reported the left wing then suddenly dropped. The pilot quickly carried out a stall recovery, descending about 300-400 ft before regaining control momentarily. The right wing then dropped and the pilot attempted to carry out a further stall recovery, but reported there was only sufficient height to level the wings before the aircraft struck the ground. The undercarriage collapsed and the aircraft slid about 75 m before coming to rest. Both occupants received serious injuries in the impact.

The pilot considered the cause of the accident to be the aircraft stalling, due to a combination of low airspeed and an increase in the stall speed in the turn. The recorded data is consistent with the aircraft entering an accelerated stall.

The pilot believes he may have become unaware of his low airspeed due to the distraction of maintaining separation from the other aircraft in the circuit. He did not consider using the aircraft's ballistic parachute recovery system due to the speed with which events happened and because the aircraft was too low for the system to operate properly.

CAP 1535P – The Skyway Code

This document is published by the CAA to provide advice on private flying rules, regulations and best practice. This includes a section on Aerodrome Operations which provides the following information on maintaining separation.

> *'Maintaining separation*
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> - *Control your speed – slowing down is often necessary to integrate with other traffic, deploy flaps and landing gear early if necessary. On the other hand, if flying a particularly slow aircraft you may need to keep your speed up so as to avoid faster aircraft bunching behind you.*
> - *Manoeuvre to keep a safe distance from others. A combination of adjusting the width of your circuit, rates of turn and relative speed can normally achieve this.*

Footnote

[1] From the aircraft's Garmin manufactured G1000 integrated flight instrumentation system.
[2] This was the last data point recorded.

- *Avoid getting close to other aircraft and having to take sudden avoidance manoeuvres that might disrupt the traffic flow. Do not orbit for spacing.*
- *If you simply cannot maintain adequate separation from others, break off from the circuit and rejoin from the dead side.*
- *If forced to go around on final due to traffic ahead or on the runway, make the decision in good time. Cross to the dead side as you climb away and rejoin the circuit on the cross wind leg or as appropriate.'*