

## ACCIDENT

<b>Aircraft Type and Registration:</b>	Vierwerk Aerolite 120, G-OLAS	
<b>No &amp; Type of Engines:</b>	1 Polini Thor 200 Evo piston engine	
<b>Year of Manufacture:</b>	2015	
<b>Date &amp; Time (UTC):</b>	13 September 2015 at 1100 hrs	
<b>Location:</b>	Darley Moor, Derbyshire	
<b>Type of Flight:</b>	Private	
<b>Persons on Board:</b>	Crew - 1	Passengers - None
<b>Injuries:</b>	Crew - 1 (Minor)	Passengers - N/A
<b>Nature of Damage:</b>	Damaged beyond economic repair	
<b>Commander's Licence:</b>	National Private Pilot's Licence	
<b>Commander's Age:</b>	57 years	
<b>Commander's Flying Experience:</b>	187 hours (of which 3 were on type) Last 90 days - 23 hours Last 28 days - 8 hours	
<b>Information Source:</b>	Aircraft Accident Report Form submitted by the pilot	

## Synopsis

Whilst taking off from a local airstrip, the pilot encountered difficulty maintaining a steady rate of climb. The aircraft stalled and dropped a wing before striking the ground just off the runway. Unfamiliarity with the class of aircraft and its marginal performance were considered by the pilot to be amongst the factors which caused the accident.

## History of the flight

The Vierwerk Aerolite 120 is a Single-Seat De-Regulated microlight (SSDR) aircraft. The owner-pilot had purchased G-OLAS about a week before at the Light Aircraft Association rally at Sywell and flown it direct from the rally to Calton Moor Airfield, which was to be its new base.

On the day of the accident, the pilot had flown the aircraft from Calton Moor to Darley Moor Airfield, some 5 miles to the southeast. Aware that this aircraft type had a crosswind limit of only 8 kt, he had taken a reading of 4 kt of wind using a hand-held anemometer and noted its direction from the windsock and a nearby wind turbine. He opted to use Runway 13 for takeoff and embarked on a low-level indirect flight of some 42 minutes duration during which he experienced some sink and had difficulty maintaining a steady rate of climb.

The aircraft landed normally at Darley Moor on Runway 19, where the pilot waited for an hour before taking off again from the same runway, with an observed wind speed of 6-8 kt

from the south-east. He had applied 12° of flap and rotated the aircraft at 20 kt, lifting off at around 30 kt. He stayed in ground effect until the airspeed indicator (ASI) showed 40 kt and increased to 42 kt (the best climb speed). The aircraft seemed to be climbing slowly but steadily and the pilot retracted the flaps at a height of 80 ft, whereupon it stopped climbing and the right wing dropped slightly. He recovered to wings level but the aircraft stalled, dropping the right wing and entering a nose-down spin to the right before impacting the ground. The aircraft was badly damaged but the pilot suffered only a minor injury.

### Analysis

In his very full account, the pilot stated that he believed that he had retracted the flaps at too low an airspeed, even though the ASI showed he was above the clean stall speed of 35 kt. He recalled that as he approached the stall he had not realised this and consequently had not lowered the nose.

In addition, the pilot made several observations concerning what he feels were probable contributory factors:

- The Aerolite 120 is a relatively low-powered, high-drag machine compared with other types of microlights he has flown. He had purchased the aircraft without seeking proper consultation with the agents or manufacturer on the best way to convert onto type.
- G-OLAS was the first of its type in the UK and there was a scarcity of expertise to draw upon.
- He had mistakenly assumed that an SSSR would be easier to fly than, say, converting to a heavier, faster aircraft. In his opinion differences training is just as necessary when making the transition in the opposite direction.
- He expressed doubts as to the accuracy of the ASI, since calibration records were not required. He noted that his GPS log showed that he never achieved a groundspeed of more than 32 kt, and, by applying wind velocity calculations, it is possible that his airspeed was very close to the clean stalling speed when he retracted the flaps.
- As he had so little time on the aircraft and had no formal conversion training, he had little awareness of the correct attitude and relative view of the horizon. This had led him to place too much faith in the indicated airspeed.

*AAIB comment:* at least some of the above factors, particularly marginal performance and lack of performance information, also applied to an accident to a different SSSR type, registration G-CIMA, which was reported in AAIB Bulletin 9/2015.