

ACCIDENT

Aircraft Type and Registration:	Cessna 172M, Skyhawk, G-BHCC	
No & Type of Engines:	1 Lycoming O-320-E2D piston engine	
Year of Manufacture:	1976	
Date & Time (UTC):	24 January 2006 at 1325 hrs	
Location:	Gloucestershire Airport	
Type of Flight:	Training	
Persons on Board:	Crew - 1	Passengers - None
Injuries:	Crew - None	Passengers - N/A
Nature of Damage:	Damage to nose wheel, nose leg and firewall	
Commander's Licence:	None	
Commander's Age:	49 years	
Commander's Flying Experience:	52 hours (of which 21 were on type) Last 90 days - 12 hours Last 28 days - 1 hour	
Information Source:	Aircraft Accident Report Form submitted by the pilot	

Synopsis

Shortly after takeoff, on a solo training flight, a red warning light illuminated. The pilot requested a priority landing from ATC. Following a high and fast approach the subsequent landing was heavy damaging the aircraft in the vicinity of the nose landing gear.

History of flight

The weather at Gloucestershire Airport was hazy with visibility of 7 km and no cloud below 3,500 ft agl. There was little or no wind.

The pilot had recently completed the Joint Aviation Requirements, Private Pilot's Licence (Aeroplanes) syllabus and skills test and had applied to the UK CAA for his licence. Because he had not yet received his licence, the pilot's instructor authorised and supervised the flight.

Initially the pilot planned to fly a solo cross country flight but after consulting his instructor about the poor visibility he decided to fly some visual circuits. Having completed his pre-flight checks the pilot taxied out to Runway 09 where he carried out the engine power checks uneventfully.

After takeoff, at approximately 200 ft agl, a red warning light illuminated on the instrument panel. The pilot assumed the light was a starter warning light. Believing he had an emergency he commenced a left turn downwind from a height of about 500 ft agl. He informed ATC of his problem and requested a priority landing; this was approved.

Upon rolling out downwind for Runway 09 the pilot realised he was too close to the runway in order to complete the finals turn. He advised ATC of this. They informed the pilot that, as the wind was very light, he could land on any runway (09/27, 04/22 or 18/36). The pilot then attempted to position for Runway 04, but again ended up too close to the runway. ATC then suggested that the pilot's best option was to reposition for Runway 27, which he accepted.

Once established on final approach for Runway 27 the pilot realised he was too high and too fast. Believing he had an engine problem, he was reluctant to go around in case it aggravated the problem. He continued with the approach and touched down "extremely" heavily at least half way down the 1419 m long runway (997 m LDA). The aircraft bounced two or three times and stopped near the threshold of Runway 09.

After shutting down the engine the pilot realised that he had misidentified the warning light. It was a LOW VOLTAGE warning light that had illuminated. He had misidentified the light because he did not read the writing on the placard below the light. He assumed it was the STARTER warning light because the Cessna 172's LOW VOLTAGE light is the same size, shape and position as the STARTER warning light in a Piper Warrior, the aircraft type in which he had done most of his flying training.

Upon inspection of the aircraft the maintenance organisation found that the nose wheel had been damaged and the nose leg fork had been bent. Further examination also discovered that the firewall had been creased and the floor panelling behind the firewall had been buckled. The LOW VOLTAGE light had illuminated because of an alternator drive problem.

Starter warning light

The STARTER warning light indicates that the engine starter has engaged and is turning the engine. The Cessna 172 checklist only gives actions to be taken for the STARTER warning light illuminating on the ground. This is because it is assumed that the starter has remained engaged after engine start.

The pilot's instructor reported that he not heard of a STARTER warning light illuminating in flight. He added that the actions to be taken, in this event, would be dependent on whether the engine was still working and what other symptoms were present. Ultimately it could lead to the engine being shut down in flight and a forced landing being flown.

Instructor's comments

The pilot was extensively debriefed on the event by his instructor. As a result, the flying school have modified their training practices so that pilots understand why a warning light may illuminate and the correct actions to be taken if it does illuminate.

Conclusion

As a result of a misidentified warning soon after takeoff, an inexperienced pilot became anxious. In a bid to land his aircraft expeditiously, he repeatedly misjudged his positioning in the circuit and the final approach to land. Subsequently, he landed very firmly, damaging the aircraft.