

ACCIDENT

Aircraft Type and Registration:	Practavia Sprite Series 2, G-BCVF	
No & Type of Engines:	1 Continental Motors Corp C125-1 piston engine	
Year of Manufacture:	1978 (Serial no: PFA 1362)	
Date & Time (UTC):	30 June 2015 at 1330 hrs	
Location:	Bruntingthorpe Aerodrome, Leicestershire	
Type of Flight:	Private	
Persons on Board:	Crew - 1	Passengers - None
Injuries:	Crew - None	Passengers - N/A
Nature of Damage:	Canopy detached, loss of VOR antenna, minor fuselage damage	
Commander's Licence:	Commercial Pilot's Licence	
Commander's Age:	47 years	
Commander's Flying Experience:	1,010 hours (of which 0 hours were on type) Last 90 days - 24 hours Last 28 days - 8 hours	
Information Source:	Aircraft Accident Report Form submitted by the pilot and subsequent AAIB enquiries	

Synopsis

During a flight between Tatenhill and Sywell Aerodromes, the pilot noted that the engine temperature was abnormally high and the oil pressure was low, so he elected to divert to Bruntingthorpe Aerodrome. However, while doing so, a portable carbon monoxide monitor in the cockpit began to emit an alarm. The pilot opened the canopy to allow ventilation but this resulted in the canopy detaching from the aircraft. The aircraft landed safely at Bruntingthorpe and there were no subsequent reports of damage or injury on the ground.

History of the flight

The pilot had recently purchased the aircraft and planned to fly it from Tatenhill to his base at Earls Colne Airfield, with a planned stop at Sywell. During the climb, the pilot noted that the engine temperature was abnormally high and the oil pressure was low. He levelled-off in an attempt to achieve engine cooling; however, it soon became apparent that the temperature and pressure readings had not stabilised. The pilot elected to land at Bruntingthorpe, one of his planned diversion airfields. While routing to Bruntingthorpe, a portable carbon monoxide monitor in the cockpit began to emit an audible alarm. The pilot opened the sliding canopy to allow ventilation, but this resulted in the canopy detaching from the aircraft.

The aircraft landed safely at Bruntingthorpe and there were no subsequent reports of damage or injury on the ground.

Background

The pilot had purchased the aircraft in April 2015, with a view to refurbishing it. Prior to purchase, he had inspected the aircraft and considered that although it was somewhat neglected, it was structurally sound and airworthy. The aircraft had a current and valid Permit to Fly but had only flown a single flight in the preceding 12 months. As a condition of the purchase, the aircraft canopy was replaced because the original glazing had been in poor condition. The pilot's nominated Light Aircraft Association (LAA) Inspector inspected the canopy replacement.

The pilot carried out a number of checks and servicing tasks, including engine ground runs and fuel line checks. When he was satisfied that the aircraft was fit to fly, he carried out a circuit at Tatenhill. During the circuit he noted that the engine temperature seemed higher and the oil pressure lower, than he expected. The pilot subsequently consulted the previous owner, who informed him that the temperatures and pressures he had reported were normal operating parameters for this aircraft, and had not changed for many years.

Taking this into account, the pilot considered that the aircraft was in a suitable condition for a flight to his base at Earl's Colne Aerodrome, where he planned to undertake a full rebuild of the aircraft. As this was to be his first flight in the aircraft since its purchase, the pilot planned the flight to route overhead a number of potential diversion airfields and to avoid overflying built-up areas. He also planned to stop at Sywell to refuel and to check the engine.

Discussion

As the pilot was unfamiliar with the aircraft and its performance, he took the prudent step of planning the flight to include a number diversion airfields and this proved necessary when it became apparent that the engine performance was sub-optimal.

The pilot subsequently considered that it may have been an error of judgement to open the canopy in flight. However, the indication of carbon monoxide fumes, and the lack of any other means of introducing ventilation to the cockpit, meant he considered it a reasonable action to take at the time. Due to the particular canopy assembly on the Practavia Sprite, the canopy is only secured to the airframe when fully closed. There was no evidence that the canopy detachment was related to its recent replacement.

Subsequent examination of the engine revealed a large crack in the engine casing, which is likely to have been the cause of the poor engine performance and carbon monoxide fumes, experienced during the flight.

The pilot reported the accident to the LAA, which manages the Permit to Fly scheme for the accident aircraft, and it undertook an internal investigation. The LAA identified a number of concerns with the airworthiness of the aircraft, including its general state of neglect and the use of a banned PVC fuel hose in the fuel system. The incident, and the condition of the aircraft, were reviewed with the LAA Inspector who had supervised the previous annual inspection for renewal of the aircraft's Certificate of Validity. While

he acknowledged that the aircraft was not in the best condition, the Inspector stated that the aircraft was airworthy at the time of his inspection. The LAA have provided additional guidance to this Inspector, and will monitor future inspection activity as part of the LAA inspector oversight programme.

Safety actions

The LAA is in the process of updating the Operating Limitations Documents for Practavia Sprite aircraft, to require fitment of a placard which states: 'THIS CANOPY MUST NOT BE OPENED IN FLIGHT.' Additionally, incidents with multiple contributory factors are frequently discussed in the 'Safety Spot' section of the LAA's monthly membership magazine. This incident will be discussed in the December 2015 edition.