

No: 7/91 **Ref: EW/G91/05/16** **Category: 1c**

Aircraft Type and Registration: Piper PA-28-161, G-BSPM

No & Type of Engines: 1 Lycoming O-320-D3G piston engine

Year of Manufacture: 1980

Date & Time (UTC): 13 May 1991 at 1740 hrs

Location: White Waltham Airfield, Berkshire

Type of Flight: Private

Persons on Board: Crew - 2 Passengers - None

Injuries: Crew - None Passengers - N/A

Nature of Damage: Extensive fire damage within the engine compartment including damage to the carburettor, hot-air box, electrical leads and various fuel and oil hoses

Commander's Licence: Commercial Pilot's Licence with Instrument, Night and Instructor ratings

Commander's Age: 41 years

Commander's Flying Experience: 1,145 hours (of which 490 were on type)

Information Source: Aircraft Accident Report Form submitted by the pilot

The aircraft had returned from an earlier sortie and the instructor and student were attempting to start the engine for an evening training detail. The instructor had previously noticed that this particular aircraft's engine was difficult to start, especially when warm, but that it usually responded to one or two pumps of the throttle while cranking the engine.

The instructor states that on this occasion the engine was warm, but not hot, and he gave it two primes, followed by two pumps of the throttle while cranking. The engine fired, ran very roughly for a few seconds and then stopped. A second attempt was made, this time without priming or pumping, but the engine did not fire at all. The mixture control was then put into the 'idle cut-off' position and the engine was cranked with the throttle fully open, again with no response. A final attempt to start the engine was made, with priming and pumping similar to the first attempt, and there was a repetition of the few seconds of rough running followed by the engine stopping. The instructor considers that each starting attempt had involved between 10 and 15 seconds of cranking.

The instructor and the student remained in the aircraft for a further 2 minutes, discussing whether or not to transfer to another aircraft. They then got out of G-BSPM and returned to the flight operations office. At this point flames were seen around the cowling of 'PM. With the airfield fire service in attendance the fire was quickly extinguished but not before it had caused extensive damage in the engine compartment.

When the aircraft was later examined by the maintenance organization there was no positive evidence as to how the fire had started. It appeared, therefore, most likely that the successive attempts at starting the engine had resulted in excess fuel coming in contact with the engine exhaust system and that this had brought about the fire.