

Piper PA-23-250, G-TAXI

AAIB Bulletin No: 5/2002	Ref: EW/G2002/02/19	Category: 1.2
Aircraft Type and Registration:	Piper PA-23-250, G-TAXI	
No & Type of Engines:	2 Lycoming IO-540-C4B5 piston engines	
Year of Manufacture:	1973	
Date & Time (UTC):	24 February 2002 at 1400 hrs	
Location:	Blackpool Airport	
Type of Flight:	Private	
Persons on Board:	Crew - 2	Passengers - 1
Injuries:	Crew - None	Passengers - None
Nature of Damage:	Smoke damage to the right engine cowling	
Commander's Licence:	Basic Commercial Pilots Licence	
Commander's Age:	35 years	
Commander's Flying Experience:	4,100 hours (of which 1,000 were on type)	
	Last 90 days - 30 hours	
	Last 28 days - 15 hours	
Information Source:	Aircraft Accident Report Form submitted by the pilot and further enquiries by the AAIB	

The aircraft was being used to complete a license renewal flight for one of the pilots. After taxiing to the threshold of Runway 25 it was cleared to line up to allow the crew to carry out their pre-takeoff power checks. During these checks the crew became aware of a burning smell in the cockpit and observed smoke emanating from the right engine. The pilot reported a fire on the radio, shut down both engines and the aircraft was evacuated. ATC, who had also observed smoke from the aircraft, activated the crash alarms.

At the time the Airfield Fire Service (AFS) were involved in a training exercise but they arrived on the scene some 4 minutes after the occurrence was reported. The right hand engine cowling was removed and extinguishant was applied to control the smoke. At no time did anyone observe any flame.

Subsequent examination of the right engine revealed that the inboard branch of the exhaust system had fractured allowing hot gases to impinge directly onto the fibreglass cowling. The engineer who examined the engine commented that this section of exhaust crosses over the engine with very little support and is prone to fatigue. Furthermore he commented that the exhaust had been visually examined during an annual inspection carried out on the aircraft some two months earlier, but without extensive testing it was unlikely that the incipient failure would have been detected.

The manufacturer has, in previous years, issued the following service letters and bulletins concerning the exhaust system on the PA23:

Service Letter 324C - Maintenance and Inspection of Exhaust systems and heat exchangers.

Service Letter 520 - Inspection of turbocharger plenum exhaust welds

Service Letter 533 - Improved exhaust stack assembly availability.

Service Letter 641 - Exhaust stack support assembly replacement.

Service Bulletin 273 - Inspection of turbocharger tailpipe clearance to firewall.

Service Bulletin 319 - Exhaust system inspection and modification

Service Bulletin 662 - Exhaust system inspection and modification.

Emergency services response

The AAIB report into the above occurrence stated that the Airfield Fire Service (AFS) arrived on the scene 'some 4 minutes' after crash alarm activation. Subsequent investigation revealed that, due to their involvement in a training exercise, they did not hear the initial call from ATC. In order to prevent any recurrence, the AFS training manual has been amended to emphasise the requirement for AFS crews to inform ATC when they are training and for them to maintain a listening watch on the radios at all times. In addition, AFS vehicles have been fitted with external radio speakers.

Maintenance

Further inspection of the aircraft and associated maintenance records by the CAA revealed FAA Airworthiness Directive (AD) 72-14-05 had not been accomplished. This AD involves inspection of engine exhaust stack assemblies for cracks, flaking, burns or distortion and states that defective parts must be replaced prior to further flight. The inspection of the right hand engine revealed several weld repairs that were not permitted by the AD.