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**ACCIDENT**

<b>Aircraft Type and Registration:</b>	DH89A Dragon Rapide, G-AIYR	
<b>No &amp; Type of Engines:</b>	2 de Havilland Gipsy Queen 3 piston engines	
<b>Category:</b>	1.2	
<b>Year of Manufacture:</b>	1943	
<b>Date &amp; Time (UTC):</b>	9 July 2005 at 1721 hrs	
<b>Location:</b>	Duxford Aerodrome, Cambridgeshire	
<b>Type of Flight:</b>	Public Transport (Passenger)	
<b>Persons on Board:</b>	Crew - 1	Passengers - 8
<b>Injuries:</b>	Crew - None	Passengers - None
<b>Nature of Damage:</b>	Lower right wing burned for about 3.3 metres of span outboard of the engine	
<b>Commander's Licence:</b>	Commercial Pilot's Licence	
<b>Commander's Age:</b>	53 years	
<b>Commander's Flying Experience:</b>	5,835 hours (of which 1,400 were on type) Last 90 days - 140 hours Last 28 days - 22 hours	
<b>Information Source:</b>	Aircraft Accident Report Form submitted by the pilot and enquiries by the AAIB	

**History of the flight**

The aircraft was being used for a number of short consecutive pleasure flights. Following one of these flights the engines were closed down whilst the passengers were disembarked and a new group embarked. This took approximately 10 minutes. With the port engine running the pilot started the starboard engine and observed flames appearing over the leading edge of the lower starboard wing, outboard of the engine. No fuel priming was carried out to either engine prior to start-up. The pilot closed down both engines and evacuated the passengers and himself. Once he had ensured that the passengers were safely away from the aircraft, he assisted ground staff to extinguish the fire.

An eye witness, who was standing in front of and to the right facing the aircraft, saw a long flame shoot out of the exhaust of the starboard engine during start-up (the exhaust being on the starboard side of the engine). This flame started a fire on the rear fabric-covered under-surface of the lower starboard wing, just outboard of the engine.

**Engineering examination**

A detailed examination was carried out by the operator's engineer who found no evidence of the fire initiating inside the wing's structure. No explanation, other than

a flame emanating from the engine's exhaust, could be found to account for the initiation of the fire. The engine was examined and test run and there were no fuel or oil leaks. The test runs and subsequent flight tests showed no fault with the engine and no adjustments had to be made to the engine systems following the fire.

#### **Other information**

There was a taxiway edge storm drain within one metre of the point on the aircraft's wing where the fire started. Examination of this drain revealed no evidence of burning/scorching or having contained inflammable gas or liquid.

In the early 1950s a number of DH89A aircraft suffered 'start-up fires'. As a result, in 1954, the aircraft manufacturer issued Technical News Sheet series CT(89) number 17 titled '*Fire Precautions*'. This News Sheet mentioned the application of an engine modification, which had been embodied on G-AIYR, specific maintenance inspections and adherence to the engine shutdown procedure. This advice was repeated in an article in the August 2003 edition of 'The de Havilland Gazette' which is an informal news update for Technical News Sheet subscribers published by de Havilland Support Limited, the airframe Design Authority.