AAIB Bulletin No: 5/93 **Ref: EW/G93/01/13** **Category: 1c**

Aircraft Type and Registration:	Auster J5F Aiglet Trainer, G-BGKZ
No & Type of Engines:	1 De Havilland Gipsy Major 1F piston engine
Year of Manufacture:	1953
Date & Time (UTC):	30 January 1993 at 1430 hrs
Location:	Langham, Essex
Type of Flight:	Private
Persons on Board:	Crew - 1 Passengers - None
Injuries:	Crew - None Passengers - N/A
Nature of Damage:	Fuselage structure twisted, substantial damage to the landing-gear, engine cowlings and right wing
Commander's Licence:	Private Pilot's Licence
Commander's Age:	35 years
Commander's Flying Experience:	110 hours (of which 22 were on type) Last 90 days - 2 hours Last 28 days - 2 hours
Information Source:	Aircraft Accident Report Form submitted by the pilot and enquiries by the AAIB

The pilot reported that he took off from Nayland on a local flight and after levelling off at 1,300 feet, the engine began to run roughly. He therefore selected carburettor heat, tried both magneto switches and changed fuel tanks in an effort to rectify the problem. He found that the engine reduced RPM with closure of the throttle, but did not increase RPM when the throttle was opened. The pilot then selected a large field and circled it looking for obstructions. As the engine did not appear to be picking up, he decided to carry out a precautionary landing in this field. Just before landing, he heard a bang and had trouble judging the flare. The aircraft landed very hard and ground looped.

Although the aircraft was severely damaged, it was reported that the engine could be turned after the accident without generating any unusual sounds or other evidence of mechanical distress.

At the time of the accident, a number of other aircraft operating from Nayland reported symptoms of serious carburettor icing. An aftercast was accordingly obtained by the AAIB from the Meteorological Office, covering the area of the accident at the time in question. This showed that throughout the

height band between the surface and 1,500 feet, the relative humidity was approximately 90 %. It was also noted that the aircraft was using motor fuel which is normally more conducive to carburettor icing than aviation fuel.

The Auster aircraft is equipped with a carburettor warm-air system utilising engine cooling air, rather than the more common hot-air system using air from an exhaust heat-exchanger installed in most piston engined light aircraft. Should significant carburettor icing occur, the system in the Auster could be expected to take considerably longer to clear the ice than would a hot-air system.

The source of the bang heard by the pilot during the approach has not been established, but it was suggested by a pilot familiar with the aircraft that this may have been caused by the flaps retracting as a result of the lever coming out of its detent, having not been fully engaged on selection, under the pressures of this event.