

FINAL REPORT

AAIU Synoptic Report No: 2005-004

AAIU File No: 2004/0005

Published: 08/03/05

In accordance with the provisions of SI 205 of 1997, the Chief Inspector of Accidents, Mr Kevin Humphreys, carried out a Field Investigation into this occurrence and prepared a Synoptic Report.

Aircraft Type and Registration:	Piper PA 28, EI-BSO
No. and Type of Engines:	1x Lycoming 0-320-E2A
Aircraft Serial Number:	28-25449
Year of Manufacture:	1969
Date and Time (UTC):	24 January 2004 @ 13.20 hrs
Location:	Ramsgrange, Co. Wexford 52° 12' N 6° 53' W
Type of Flight:	Private
Persons on Board:	Crew - one Passengers - one
Injuries:	Crew - Nil Passengers - Nil
Nature of Damage:	Minor damage to engine air intake
Commander's Licence:	Irish CPL
Commander's Details:	Male, aged 36 years
Commander's Flying Experience:	1,412 hours, of which 1,200 were on type
Information Source:	Station Manager, Shannon Airport and An Garda Síochána at New Ross.

1. FACTUAL INFORMATION

1.1 History of the Flight

This training flight was the third flight of the day. The crew were engaged in carrying out aircraft stalls when at approximately 3,200 ft ASL there was a loss of engine power. The instructor said that after picking a field on which to land the aircraft, he went through checks of everything including carburettor heat selection and a switch of fuel tanks. There was no recovery of engine power evident and the pilot landed in the chosen field, which was 50 ft above mean sea level (AMSL). The crew were each equipped with a lap and diagonal harness and they evacuated the aircraft within 15 seconds through the main door. The crew reported that the field was used for cattle grazing and that two wires in the field were cut by the aircraft on landing. As a consequence, the aircraft suffered slight damage to the air intake scoop.

FINAL REPORT

1.2 Aircraft Information

On 26 Jan 2004, the Investigator met with the pilot and a licensed aircraft engineer at the landing site. The aircraft engine was started and ran for more than 10 minutes. The engine was slightly down on power but considered acceptable. Fuel samples were taken from the aircraft and examined. As these were satisfactory a decision was made to remove the carburettor. The carburettor was removed and sent to a contractor in the UK for a full strip down and examination.

1.3 Weather

The pilot obtained a forecast from Waterford (EIWF) ATIS and reported that the air temperature at the time of flight was 8° C and the Dew Point was 4° C.

1.4 Tests and Research

The pilot reported that 10 days prior to this incident the engine had spluttered on approach to the runway at Waterford. This was investigated by the pilot and the licensed engineer at the time, but as no cause could be found, the loss of power at the time was put down to carburettor icing and the aircraft was returned to service.

Following removal and examination of the carburettor, the UK contractor reported that they had found a small “*centipede*” type of insect in the bowl of the carburettor. As nothing else was found, which might have given rise to the loss of power, they concluded that this insect could have blocked one of the jets in the carburettor thus cutting off the fuel supply. The carburettor was re-assembled and returned to the licensed engineer and reinstalled on the engine. After engine runs the aircraft was flown out and returned to Waterford Airport.

2. ANALYSIS

In 1979 the IAA issued an Aeronautical Information Circular (AIC) pointing out in graphical form the likelihood of carburettor icing at various levels of ambient temperature and dewpoint. (See graph Appendix A)

At a temperature of 8° C and a dewpoint temperature of 4° C there is a possibility of serious carburettor icing at any power setting. However, if the pilot has switched on carburettor heat, and switched it on in time, then carburettor icing could be prevented.

Finding small insects in carburettors is not uncommon. AAIU Report 1999-017 was published following the forced landing of a Cessna 150 G in November 1998. A small fly was subsequently found in the engine carburettor. There was also a similar case reported by the AAIB in the UK. The insects can enter the carburettor through a small vent pipe leading to the inner bowl. The fuel then acts as a preservative and the insect is retained in the bowl and may find its way to one of the fuel jets.

3. CONCLUSIONS

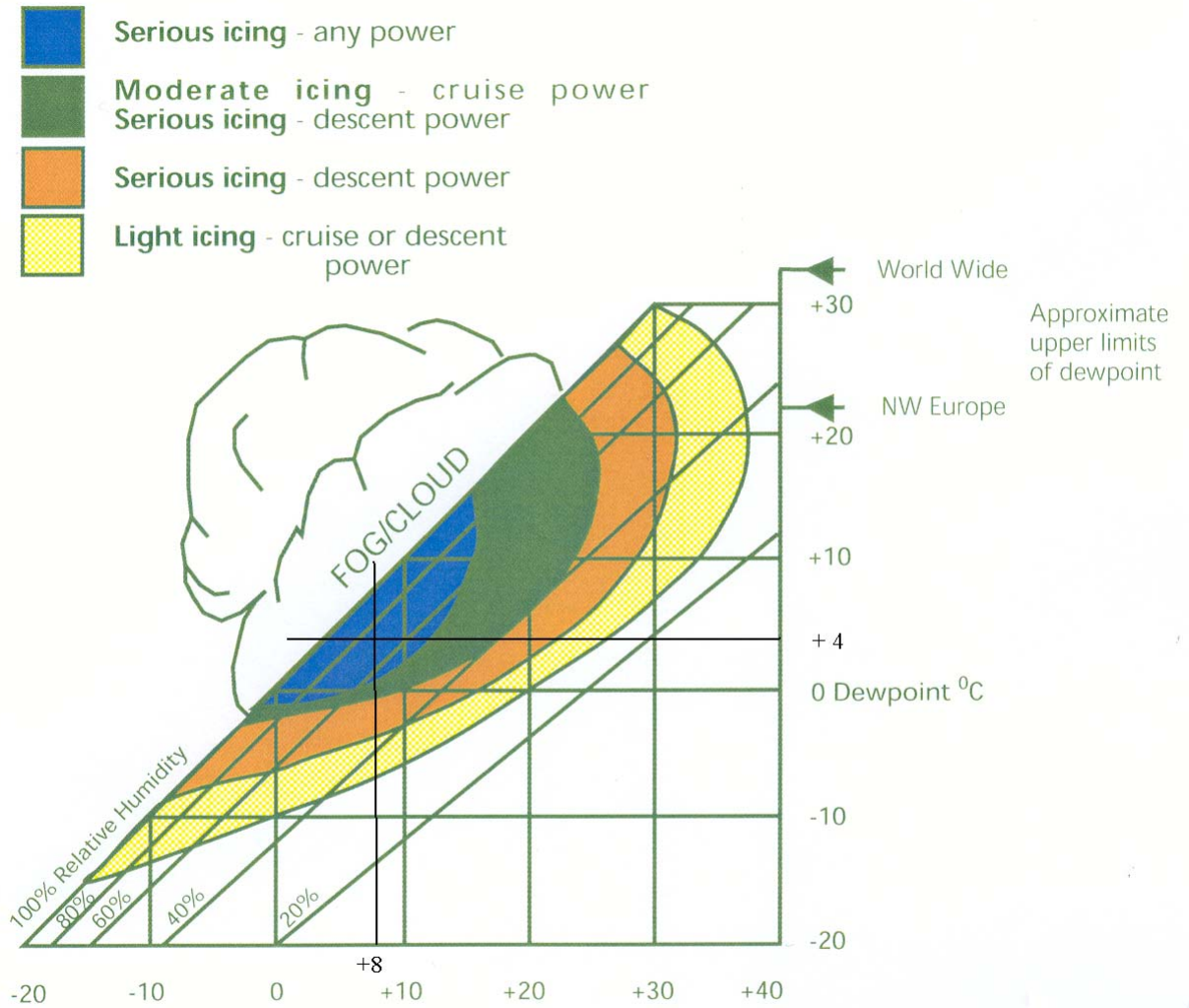
In this case it is not possible to say if the jet was blocked by an insect or if carburettor icing occurred in flight.

4. SAFETY RECOMMENDATIONS

This Report does not support any safety recommendations.

FINAL REPORT

Appendix A



CARB ICING CHART