Aviation Safety Investigation Report 198901553

Cessna 152

14 September 1989

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NOTE: All air safety occurrences reported to the ATSB are categorised and recorded. For a detailed explanation on Category definitions please refer to the ATSB website at www.atsb.gov.au.

Occurrence Number: 198901553 **Occurrence Type:** Accident
Location: Mt Dunneed VIC
Date: 14 September 1989 **Time:** 1715
Highest Injury Level: Nil
Injuries:

	Fatal	Serious	Minor	None
Crew	0	0	2	2
Ground	0	0	0	-
Passenger	0	0	0	0
Total	**0**	**0**	**0**	**2**

Aircraft Details: Cessna 152
Registration: VH-WLA
Serial Number: 15282749
Operation Type: Aerial Work
Damage Level: Substantial
Departure Point: Geelong VIC
Departure Time: 1630
Destination: Geelong VIC

Approved for Release: 18 January 1990

Circumstances:

The student pilot was receiving instruction in the procedures associated with an engine failure after take off. At 1000 feet above ground level carburettor heat was applied, the throttle retarded to idle and the aircraft configured for descent. At 800 feet the power was reapplied, carburettor heat was selected off and the aircraft climbed back to repeat the lesson. After the second exercise the engine would only develop 1500 rpm and was running roughly. The instructor took over, exercised the carburettor heat and left it on, but there was no improvement in engine performance. He then carried out a forced landing in a paddock. During the latter part of the landing run the nosewheel dug into the soft surface, and the right wing was damaged. The weather conditions at the time (ambient air temperature 16-17 with a dew point of 11 and overcast) were favourable to the formation of carburettor ice. The engine had recently been overhauled. The operator reported that the aircraft normally gave only a very small drop in rpm when carburettor heat was applied. The spark plugs were found to be heavily sooted with a fresh carbon deposit, which indicated that the engine had suffered a rich cut. This is consistent with the effects of ice accumulating in the carburettor. The carburettor heat box was found to be loosely fitted to the carburettor and one side of the box had a rubber seal missing. This resulted in a loss of effectiveness of the carburettor heating system.

Significant Factors:

The following factors were considered relevant to the development of the accident

1. Inadequate maintenance and inspection of the carburettor heat box.

2. Weather conditions were favourable for the formation of carburettor icing.

3. The operator and pilots did not recognise the significance of the very low drop in rpm when testing the carburettor heat system.

4. The pilot was forced to land on unsuitable terrain.