Cessna 152, G-BXGE

AAIB Bulletin No: 11/97 Ref: EW/G97/08/04Category: 1.3

Aircraft Type and Registration:	Cessna 152, G-BXGE
No & Type of Engines:	1 Lycoming O-235-L2C piston engine
Year of Manufacture:	1979
Date & Time (UTC):	4 August 1997 at 1540 hrs
Location:	2nm East of Bala, North Wales
Type of Flight:	Private
Persons on Board:	Crew - 1 - Passengers - None
Injuries:	Crew - None - Passengers - N/A
Nature of Damage:	Severe damage to both wings and wing mount locations, nose landing gear collapsed and engine frame bent
Commander's Licence:	Private Pilot's Licence with Night Rating
Commander's Age:	28 years
Commander's Flying Experience:	2,200 hours (of which 40 were on type)
	Last 90 days - 200 hours
	Last 28 days - 100 hours
Information Source:	Aircraft Accident Report Form and MOR submitted by the pilot and telephone enquiries by AAIB

The pilot had uplifted 80 litres of fuel to fill the aircraft'stanks at Donegal (Total usable 24.5 gall US, 92.7 litres). Theaircraft departed from Donegal at 1243 hrs (all times UTC) andlanded at Eglinton at 1313 hrs where the passenger disembarked. The aircraft took off again at 1322 hrs, the pilot declaringthat his destination was Welshpool, his endurance was 3 hours30 minutes and his estimated flight time 2 hours 30 minutes. At 1540 hrs, when the aircraft was at 3,000 feet with 2,400 RPMset and about 2 nm east of Bala, engine power began to fluctuate,with the RPM varying between 900 and 2,300. Thirty seconds previouslycarburettor heat had been applied for about 20 seconds. Carburettorheat was applied again and the aircraft turned downwind away fromhigh ground. The throttle was closed and re-opened and carburettorheat returned to "COLD".

Because of the undulating terrain the pilot kept power on to aidthe glide towards a suitable field. He made an RT call on Welshpoolfrequency but got no response, possibly because of interveninghigh

ground. At a height of 300 feet he cut the power and carriedout a forced landing into a field. The grass was short and wetand the aircraft ran into the far boundary hedge. The pilot managedto yaw the aircraft slightly before it hit the hedge to lessenthe impact on the cabin. Once the aircraft had stopped he switchedeverything off and vacated the aircraft without injury.

Four days before, the aircraft had suffered a similar problemwith the same pilot but a successful forced landing had been carriedout on the airfield. Some water and small flakes of paint hadthen been removed from the strainer and the engine was successfullyrun up to full power.

After the crash, fuel was seen to be draining from both tanks;the outlet pipes at the wing roots had been ruptured. It appearedto observers that there was a substantial amount in each tankbut it was possible to collect only a small amount. This wasallowed to settle and was seen to be clear, bright, of the correctcolour (blue) and showed no sign of water or other contamination. An estimate of the fuel used since the tanks had been filledat Donegal gave 64 litres. The aircraft's ignition wiring andswitch were checked and no fault was found. As the engine hadnot been damaged in the impact it was fitted to another aircraftand was successfully run to full power and then flown.

A meteorological aftercast showed that there had been scatteredcloud with a 2,000 feet base and an overcast at 6,000 feet. At3,000 feet the air temperature was about +14_C and the relativehumidity 80%. From a graph contained in the CAA Safety SenseLeaflet 3A "Winter Flying" it can be seen that theseconditions (in August) carry a risk of serious carburettor icingat any power.