DH115 Vampire T55, G-DHAV

AAIB Bulletin No: 2/98 Ref: EW/G97/11/19Category: 1.1

Aircraft Type and Registration:	DH115 Vampire T55, G-DHAV
No & Type of Engines:	1 De Havilland Goblin MK35B turbojet engine
Year of Manufacture:	1956
Date & Time (UTC):	29 November 1997 at 1326 hrs
Location:	Swansea Airport, Wales
Type of Flight:	Private
Persons on Board:	Crew - 1 - Passengers - 1
Injuries:	Crew - None - Passengers - None
Nature of Damage:	Damage to landing gear and leading edge of left wing
Commander's Licence:	Commercial Pilot's Licence
Commander's Age:	30 years
Commander's Flying Experience:	1,700 hours (of which 7 were on type)
	Last 90 days - 141 hours
	Last 28 days - 37 hours
Information Source:	Aircraft Accident Report Form submitted by the pilot

The aircraft was returning to Swansea airport, after a local flight,to land on concrete Runway 22 with a Landing Distance Available(LDA) of 1,261 metres . The weather was CAVOK with a surfacewind of 280°/15 gusting to 25 kt.

As the aircraft turned finals the pilot encountered moderate turbulenceand decided to increase the approach speed by 10 kt giving a thresholdspeed of 110 kt. The aircraft floated slightly during the flaredespite the application of airbrakes. The wheel brakes were checkedimmediately after touchdown and large amounts of left rudder andleft brake were required to compensate for the crosswind fromthe right. Approximately halfway along the landing roll the brakingeffectiveness reduced and, despite the application of full brakepressure and full rearward control column, the aircraft veeredto the right and overran the end of the runway. The pilot closedthe HP and LP cocks prior to leaving the paved surface. Bothcrew members were uninjured and vacated the aircraft having madesafe their ejection seats.

A report by the Company Chief Pilot into the accident stated thatthe pneumatic bag braking system, common to most aircraft of thisvintage, is notorious for 'brake fade' due to over heating whichcan result in a serious reduction, if not total failure, in brakingeffectiveness. Braking and rudder cannot be applied separatelyin the Vampire. Landing in strong crosswind conditions meansthat most of the braking effort will be applied to one side only. 'Brake fade' will cause a severe reduction in braking effectivenessand eventual loss of directional control. As a result of thisaccident the company have imposed a crosswind component limitof 15 kt on Vampire aircraft using Runway 04/22 at Swansea.