Piper PA-28-161, G-BNOM

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Aircraft Type and Registration:	Piper PA-28-161, G-BNOM
No & Type of Engines:	1 Lycoming O-320-D3G piston engine
Year of Manufacture:	1987
Date & Time (UTC):	13 April 1998 at 1132 hrs
Location:	Gamston Airport, Nottinghamshire
Type of Flight:	Private
Persons on Board:	Crew - 1 - Passengers - 1
Injuries:	Crew - None - Passengers - None
Nature of Damage:	Propeller, engine shock loaded, nosewheel collapsed, crushed firewall, starboard wing dented and dislodged
Commander's Licence:	Private Pilot's Licence
Commander's Age:	38 years
Commander's Flying Experience:	85 hours (of which 83 were on type) Last 90 days - 20 hours Last 28 days - 3 hours
Information Source:	Aircraft Accident Report Form submitted by the pilot

The day before the accident the pilot had a dual check with an instructor which included crosswind landings; during the check his crosswind landing technique was assessed as above average. On the day of the accident he and his passenger embarked on a cross country flight in fine weather with planned landings at Sturgate and Gamston. The general surface wind was from 340° at 15 kt and the aircraft was well within weight and balance limits.

On arrival at Sturgate the pilot had a choice between the short Runway 32 (LDA 460 metres) which was almost into wind and the longer Runway 27 (LDA 790 metres) which had a crosswind from the right. He chose Runway 27 and the crosswind landing and subsequent take off at Sturgate were uneventful. At Gamston where there is only one runway, the pilot flew a normal circuit to land on Runway 03 where the crosswind was from the left. He flew the final approach section with 40° flap

at 65 KIAS and used the 'crab' technique to cope with the drift on finals. He 'kicked off' drift in the flare but immediately after touchdown he heard a 'clunk' sound from the front of the aircraft and it suddenly veered to the left. The aircraft left the runway onto the grass verge alongside. Initially the pilot intended to keep the aircraft running parallel with the runway using rudder and nosewheel steering. However, the left mainwheel ran off the edge of the verge and into a ploughed field. The resultant drag slewed the aircraft to the left once more. As the nosewheel entered soft ground the nose leg collapsed, the propeller struck the soil and the right wing struck the ground. Both occupants vacated the aircraft without difficulty and the airport fire service attended the scene.

The damaged aircraft was recovered to the operator's maintenance facility where additional damage to the right wing attachment fittings was discovered. No pre-existing damage to the nosewheel steering system was evident.

The pilot attributed the accident to a very strong gust of wind which he was unable to correct in time to prevent the aircraft leaving the runway. The Normal Procedures section of the Airplane Flight Manual states *"The amount of flap used during landings and the speed of contact with the runway should be varied according to the landing surface and conditions of wind and airplane loading. It is generally good practice to contact the ground at the minimum possible safe speed consistent with existing conditions."* However, the next paragraph, which describes the recommended landing technique, concludes with the statement *"In high wind conditions, particularly in strong crosswinds, it may be desirable to approach the ground at higher than normal speeds with partial or no flaps.* The maximum demonstrated crosswind component for the type is 17 kt whereas the expected crosswind component for both landings would have been about 12 kt.