

Europa, G-DAMY

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Aircraft Type and Registration:	Europa, G-DAMY
No & Type of Engines:	1 Rotax 912 piston engine
Year of Manufacture:	1996
Date & Time (UTC):	1 March 1997 at 1230 hrs
Location:	Kemble Airfield, Gloucestershire
Type of Flight:	Private
Persons on Board:	Crew - 1 - Passengers -None
Injuries:	Crew - None - Passengers - N/A
Nature of Damage:	Damage to propeller, spinner, underside of engine cowl and to the right wingtip; one runway light damaged
Commander's Licence:	Private Pilot's Licence
Commander's Age:	37 years
Commander's Flying Experience:	86 hours (of which 6 were on type) Last 90 days -1 hour Last 28 days -1 hour
Information Source:	Aircraft Accident Report Form submitted by the pilot and further enquiries by AAIB Operations Inspector

The aircraft was taking off from the tarmac surfaced Runway 27 at Kemble for a local flight. The pilot reported that the surface wind was from 200/210° at 15 to 17 kt and he stated that the tail of the aircraft lifted before the aircraft had reached 30 kt indicated airspeed. This resulted in the aircraft weathercocking to the left which could not be countered by the pilot's right rudder input. The aircraft passed over the left-hand edge of the runway onto the grass and the propeller struck one of the runway lights causing the propeller to disintegrate. The pilot closed the throttle and applied the brake to abandon the takeoff. The aircraft came to a halt in a reciprocal direction to the take-off track. There was no fire and the pilot vacated the aircraft by the normal means. The aircraft was equipped with a single large semiretractable centreline mainwheel, a steerable tailwheel and an 'outrigger' wheel at about half span on each wing.

The pilot considered that the accident was caused by a combination of the strong crosswind and the lifting of the tail before the rudder authority was sufficient.

An aftercast from the Met Office indicated that, at the time of the accident, the surface wind was from 210° at 15 gusting 30 kt.

Two previous similar occurrences were found on the AAIB and on the CAA Safety Data Department Databases. These were reported in AAIB Bulletin 8/96 (G-BVLV) and Bulletin 9/96 (G-BVKF). In both cases, the aircraft were subjected to uncontrolled yaw to the left during the take-off roll.

The following advice to pilots is extracted from the Europa Pilot's Manual (dated November 1995):

'Cross wind take off

The cross wind limit of the aircraft is 15 kts. With the Rotax engine fitted, which turns the propeller clockwise as viewed from the cockpit, the effect of engine torque, the rotating prop wash and gyroscopic precession of the propeller makes a cross-wind from the port side the worst case. If the wind is at 90° to the runway, take off with the wind from the right. Hold sufficient aft stick in the early part of the take-off run to keep the tailwheel firmly on the ground to give positive directional control, and start with full into wind aileron.

Delay lifting the tail as compared to a normal take off.

A good rule of thumb is that once the ailerons have sufficient power to lift the down wind wing up off its outrigger the tail can be lifted. Be prepared to apply full rudder inputs to stop the aircraft from weather cocking into wind.

Practice your cross wind take offs and landings on a wide runway and gradually build up your experience.

The prototype Europa G-YURO has been operated in cross winds greater than 20 kts but pilot skill and experience is very important. Find the cross wind limit that you are comfortable with and stick to it.'

Additionally, letters from the PFA to new owners of Europa aircraft contain the following advice:

'Early flights in the Europa should be carried out from reasonably wide and smooth runways to give a degree of margin for error until the techniques have been mastered and sufficiently practised to have become automatic. We strongly recommend that crosswind components of greater than about 7 knots from the left and 10 knots from the right (vice versa for the Subaru powered machines where the prop rotates the other way) should be avoided until you are thoroughly familiar with the machine. The advice given in the Pilot's Manual is sound and should be heeded.'

The crosswind component at the time of this accident was 12 gusting 25 kt from the left.