

Europa, G-DAMY, 8 April 1997

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Aircraft Type and Registration:	Europa, G-DAMY
No & Type of Engines:	1 Rotax 912 UL piston engine
Year of Manufacture:	1996
Date & Time (UTC):	8 April 1997 at 1200 hrs
Location:	Kemble Airfield, Wiltshire
Type of Flight:	Private
Persons on Board:	Crew - 1 - Passengers - 1
Injuries:	Crew - None - Passengers - None
Nature of Damage:	Right side canopy door departed aircraft but no further airframe damage
Commander's Licence:	Basic Commercial Pilot's Licence with FI Rating
Commander's Age:	49 years
Commander's Flying Experience:	5,900 hours (of which 140 were on type) Last 90 days - 52 hours Last 28 days - 14 hours
Information Source:	Aircraft Accident Report Form submitted by the pilot

The aircraft had just departed from Runway 09 at Kemble and was at 500 to 800 feet AGL on the downwind leg of the circuit. The pilot estimates that the airspeed was between 110 and 120 kt when there was a loud bang as the right side canopy door detached from the aircraft. There was no further airframe damage and the pilot slowed the aircraft to 80 kt, lowered the landing gear and the flaps, and made an uneventful landing on Runway 09.

In the Europa design, the two canopy doors are arranged in a 'gull-wing' manner, hinged close to the aircraft's centreline. Normal opening of each door is assisted by a gas strut attached between the rear frame of the door and the airframe. The door is closed against the pressure of this gas strut and is then latched by a pair of shoot bolts, forward and aft, which engage in holes in the door surround. These shoot bolts are moved by pushrods attached to a conventional rotating door handle, pivoted at the lower frame of the door. In the latched position the door handle is retained by a spring-and-slider mechanism, which moves 'over-centre' to give a positive latching action.

The pilot believes that, in this instance, the door handle was in the latched position at take-off and comments that, on this particular aircraft, the holes in the door surround had become elongated and were no longer a close fit for the shoot bolts. Without recovery of the door, it could not be resolved whether this elongation had allowed sufficient freedom for the shoot bolts to engage improperly when the door handle was moved to the latched position.

To prevent canopy doors inadvertently opening in flight the manufacturer has introduced two modifications (Nos 35 and 39). One of these (No 35) provides a plate attached to the inner surface of the lower frame of the door, adjacent to the latched position of the door handle. This acts as a guard, to prevent inadvertent opening by, for instance, the snagging of clothes. The other modification (No 39) is to the door surround at the holes engaged by the shoot bolts: the modification provides for building up this area both to reduce the gap between the shoot bolts and the door surround (in the unlatched condition) and to increase engagement of the shoot bolts in the latched condition.