ACCIDENT

Aircraft Type and Registration:	EV-97 TeamEurostar UK, G-IHOT
No & type of Engines:	1 Rotax 912-UL piston engine
Year of Manufacture:	2004
Date & Time (UTC):	16 June 2006 at 1800 hrs
Location:	Barling farmers strip, Essex
Type of Flight:	Private
Persons on Board:	Crew - 1 Passengers - 1
Injuries:	Crew - None Passengers - None
Nature of Damage:	Right main gear leg separated, nose gear leg collapsed, damage to fuselage and right wing, propeller tip damage and engine shockloaded
Commander's Licence:	Private Pilot's Licence (Microlights)
Commander's Age:	47 years
Commander's Flying Experience:	454 hours (of which 82 were on type) Last 90 days - 47 hours Last 28 days - 5 hours
Information Source:	Aircraft Accident Report Form submitted by the pilot and further enquiries by the AAIB

Synopsis

During the takeoff ground roll the aircraft pitched up earlier than the pilot had expected. He lowered the nose to prevent a premature liftoff but then the aircraft started turning rapidly to the left. The pilot was unable to correct for the left turn in time and the left wing tip hit high grass in a field adjacent to the runway. The aircraft then spun almost 180 degrees to the left causing the right main landing gear leg to separate, the nose gear to collapse and the propeller to hit the ground.

History of the flight

The pilot was planning a flight to Sandown Airfield on the Isle of Wight with one passenger. The weather conditions were good with a light southerly wind, scattered clouds at 3,000 feet and a visibility greater than 10 km. The initial takeoff roll from Runway 18 (grass) was normal. The aircraft had a tendency to turn left due to the propeller slipstream and torque effects, for which the pilot compensated by applying right rudder pedal. Before the normal liftoff speed was attained the aircraft started to pitch nose up and this took the pilot by surprise because it occurred significantly earlier than usual. To prevent a premature liftoff the pilot lowered the nose back onto the

ground. The nosewheel did not touch the ground heavily but the aircraft started turning rapidly to the left, at a speed of approximately 30 to 35 mph. The pilot was unable to correct the left turn in time and the left wing tip hit high grass in a field adjacent to the runway; the aircraft spun almost 180 degrees to the left causing the right main landing gear leg to separate, the nose gear to collapse and the propeller to hit the ground. The pilot and his passenger were able to exit the aircraft unassisted.

Description of the aircraft

The EV-97 TeamEurostar is a kit-built aircraft manufactured by Evektor-Aerotechnik. G-IHOT had been assembled by Cosmik Aviation Ltd in the UK and sold as a Ready-to-fly aircraft in the microlight category with a Permit to Fly. The EV-97 is an all-metal fixed-wing aircraft with tricycle landing gear, as depicted in Figure 1. It has a steerable nosewheel that is controlled by the rudder pedals: left pedal results in a left turn and vice versa. The aircraft is also fitted with toe-operated hydraulic brakes that permit differential braking to assist with steering.

Analysis

In an honest and open report the pilot stated that the basic cause of the accident was his '*failure to make an immediate and appropriate correction to the left turn as soon as this turn became apparent.*' The pilot learnt to fly on a flex-wing microlight aircraft[1] in which the pedals moved in the same manner as on G-IHOT but resulted in opposite nosewheel steering. On a flex-wing microlight aircraft left pedal results in a right turn on the ground and right pedal results in a left turn (similar to the steering from a bicycle handle-bar). The pilot stated that controllability on the ground was the biggest difficulty he encountered when converting from flex-wing microlights to fixed-wing microlights. Although he had no recollection of doing so, he considered it possible that he inadvertently applied left pedal to correct for the left turn. His surprise at the early pitch up, and the subsequent suddenness of the turn when the nosewheel was lowered to the ground, could have contributed to an incorrect or delayed pedal input. The pilot believed that the early pitch up was probably caused by him holding the stick too far aft during the initial ground roll.

Figure 1

G-IHOT before the accident

Footnote

[1] A flex-wing aircraft has a wing that is controlled by moving a horizontal bar to shift the weight of the aircraft relative to the wing (the same way that a hang-glider is controlled). Flex-wing aircraft do not have rudders.