AAIB Bulletin No: 6/2005

Ref: EW/G2005/03/07

Category: 1.3

Aircraft Type and Registration:	Jodel DR1051 (Modified), G-AYGD	
No & Type of Engines:	1 Continental Motors O-200-A piston engine	
Year of Manufacture:	1963	
Date & Time (UTC):	13 March 2005 at 1440 hrs	
Location:	Cardiff International Airport, South Glamorgan, Wales	
Type of Flight:	Private	
Persons on Board:	Crew - 1	Passengers - 2
Injuries:	Crew - None	Passengers - None
Nature of Damage:	Landing gear collapsed	
Commander's Licence:	Private Pilot's Licence	
Commander's Age:	50 years	
Commander's Flying Experience:	220 hours (of which 14 were on type) Last 90 days - 5 hours Last 28 days - 2 hours	
Information Source:	Aircraft Accident Report Form submitted by the pilot	

The pilot had been cleared for an immediate takeoff from Runway 30. The takeoff was initiated from abeam an intersection while a passenger jet was in the process of lining up on the full runway length. The surface wind was from 230°(M) at 10 kt and the runway surface was dry. The pilot was aware of the crosswind and delayed raising the tail wheel during the takeoff. However, as he did so the aircraft yawed to the left and this could not be controlled by the application of full right rudder combined with differential braking. The pilot reduced power to idle and concentrated on controlling the subsequent run off onto the grass. Unbeknown to the pilot, there was a shallow ditch at the runway's edge and on encountering the ditch the aircraft's undercarriage collapsed. The pilot and his two passengers were uninjured and able to vacate the aircraft without assistance before the airport emergency services arrived. The left yaw at the point of raising the tail wheel was caused by a combination of the propeller wash, the reduction in directional stability of the aircraft as the tail-wheel is raised, asymmetric blade effect, torque reaction and the gyroscopic forces acting on the aircraft as it pitched forward. The aircraft was subsequently towed clear of the runway to allow continued operations.