

## ACCIDENT

<b>Aircraft Type and Registration:</b>	Jodel D120 Paris-Nice, G-BKAE	
<b>No &amp; Type of Engines:</b>	1 Continental Motors Corp C90-14F piston engine	
<b>Year of Manufacture:</b>	1961	
<b>Date &amp; Time (UTC):</b>	16 September 2011 at 1200 hrs	
<b>Location:</b>	Sleap Airfield, Shropshire	
<b>Type of Flight:</b>	Training	
<b>Persons on Board:</b>	Crew - 2	Passengers - None
<b>Injuries:</b>	Crew - None	Passengers - N/A
<b>Nature of Damage:</b>	Both main landing gear legs, propeller and left wing damaged	
<b>Commander's Licence:</b>	Airline Transport Pilot's Licence	
<b>Commander's Age:</b>	59 years	
<b>Commander's Flying Experience:</b>	12,553 hours (of which 50 were on type) Last 90 days - 24 hours Last 28 days - 16 hours	
<b>Information Source:</b>	Aircraft Accident Report Form submitted by the pilot	

## Synopsis

A swing to the left developed early in the takeoff roll on an instructional flight. Both pilots applied right rudder, which resulted in a yaw to the right which was not controlled before the left wing contacted the runway and the landing gear collapsed. The lack of time that the pilot had to prepare mentally for the takeoff, and an unconventional takeoff technique taught by the instructor, probably contributed to the accident.

## History of the flight

The pilot, who was also the owner of the aircraft, was being instructed by an instructor under the Light Aircraft Association (LAA) pilotage coaching scheme. During the previous 45 minute flight earlier

that day, the pilot had practised circuit procedures but the instructor had carried out all of the takeoffs and landings. After boarding the aircraft on the accident flight, the instructor informed the pilot that he wanted him to carry out the takeoff; this was to be the pilot's first attempt at this manoeuvre in a tailwheel aircraft. The pilot stated that the instructor had not told him beforehand that he was to carry out the takeoff, that he had not felt mentally prepared to carry it out but that he decided not to inform the instructor. At the start of the takeoff, the pilot held the aircraft stationary with the brakes and applied approximately 2,000 rpm before releasing the wheelbrake pedals. As the aircraft began the takeoff run, it started to swing to the left and the

pilot applied right rudder. He stated, however, that he over-corrected for the swing and this resulted in the aircraft yawing to the right through approximately 180°. The yaw became uncontrollable, the left wing contacted the runway and the undercarriage collapsed. The instructor stated that, after the swing to the left developed, he rapidly applied right rudder. The crew vacated the aircraft without injury.

### **Aircraft wheelbrake controls**

The aircraft was equipped with separate wheelbrake pedals and rudder pedals. Wheelbrake pedals were fitted to the left seat position only. The pedals were arranged side by side with the two wheelbrake pedals positioned inside the two left seat rudder pedals but not connected to them. Each brake pedal controlled the brake unit on its respective mainwheel but the wheelbrake pedals did not control the rudder.

### **Action taken**

The LAA has issued additional guidance to LAA coaches on training in aircraft with brakes at the P1 position only.

### **Removal of damaged aircraft**

The aircraft was removed from the runway before the AAIB was informed of the incident.

Regulation 7 of The Civil Aviation (Investigation of Air Accidents and Incidents) Regulations 1996 states:

*‘7.—(1) Subject to paragraph (2) and regulation 9 below, where an accident, or a serious incident which results in the withdrawal from service of an aircraft, occurs in or over the United Kingdom no person other than an authorised person shall have access to the*

*aircraft involved and neither the aircraft nor its contents shall, except under the authority of the Secretary of State, be removed or otherwise interfered with.’*

### **Analysis**

The pilot was not mentally prepared to carry out the takeoff because he was not briefed that he was to carry out the manoeuvre until after he boarded the aircraft. The takeoff technique used by the pilot of applying power against the brakes was the technique that the instructor had taught him. The technique used differed from the conventional tailwheel takeoff technique whereby pilots usually increase engine power progressively as an aircraft accelerates so that they can detect, and compensate for, any swing as soon as it develops.

Releasing the brakes with significant power applied can cause a tailwheel aircraft to yaw markedly if the pilot does not release the wheelbrakes symmetrically. Additionally, after the pilot releases the wheelbrake pedals, the aircraft will accelerate and there will be a short period, while the pilot repositions his feet on the rudder pedals, during which he will be unable to control any power-induced yaw. This was probably a factor in causing the initial swing to the left.

The pilot applied right rudder to correct the swing to the left and the Instructor intervened to do the same. It is possible that the resulting rudder input was greater than either pilot had intended, and caused an uncontrollable yaw to the right.

### **Conclusion**

The accident was probably resulted from the application, in response to a swing to the left, of right rudder by both pilots resulting in an uncontrollable yaw to the

right. The lack of time that the pilot had to prepare for the takeoff mentally and the unconventional takeoff technique taught by the instructor probably contributed to the accident.