

Reims Cessna FRA150M, G-BCTU

AAIB Bulletin No: 12/99 **Ref:** EW/G99/10/20 **Category:** 1.3

Aircraft Type and Registration: Reims Cessna FRA150M, G-BCTU

No & Type of Engines: 1 Continental O-240-E piston engine

Year of Manufacture: 1975

Date & Time (UTC): 20 October 1999 at 1620 hrs

Location: Clarach Road, Bow Street, near Aberystwyth

Type of Flight: Private

Persons on Board: Crew - 1 - Passengers - 1

Injuries: Crew - None - Passengers - None

Nature of Damage: Landing gear legs distorted, tail section creased, propeller bent, engine cowlings dented

Commander's Licence: Private Pilot's Licence

Commander's Age: 48 years

Commander's Flying Experience: 244 hours (of which 200 were on type)

Last 90 days - 4 hours

Last 28 days - 2 hours

Information Source: Aircraft Accident Report Form submitted by the pilot plus telephone enquiries and video recording

The private landing strip, orientated south-west to north-east, lies in the river valley on the Clarach side of the village of Bow Street. The strip has a total length of 475 yards of which about 440 yards (403 metres) is useable when departing to the north-east. The strip is surrounded by trees on either side and hills on three sides. At the north-east corner of the field containing the strip there is a warehouse and beyond the boundary fence lie the A487 trunk road and private houses built on a gentle upslope. The strip surface had recently been harrowed and rolled and sown leaving a firm dry surface with a few patches of loose soil. The surface wind at the time was from the east at up to 20 kt but gusty and variable in direction due to funnelling effects of the nearby hills.

The pilot rented the aircraft at Haverfordwest airport and had, that morning, flown it to the landing strip. The pilot had done this many times before but this was the first time he had operated from the soil surface because all his previous take offs had been made when the field was grassed. The pilot stated that after landing he made a dummy take-off run to evaluate the aircraft's acceleration on the

ground, which he assessed as satisfactory because his usual 50 kt decision point was attainable. He then made two successful flights from the strip during the morning, each with a passenger and both without any performance problems. For both departures the pilot used 10° flap. For his third take off the pilot lined up and carried out engine performance tests before turning through 360° and starting the take-off roll. The aircraft reached 50 kt by the customary decision point but then failed to accelerate further. Faced with a choice of attempting to take off at low airspeed or running into the boundary fence at high groundspeed, the pilot chose the former. He raised the aircraft's nose as the end of the strip approached and became airborne but the left wing struck a bush on the boundary of the strip which yawed the aircraft further left and it stalled into a patch of young trees near the warehouse. The aircraft came to rest upright but pitched nose-down amongst the branches with the nose resting on the ground. The pilot and his passenger were unhurt and able to leave through their doors without assistance.

The event was recorded on videotape by a resident of the housing estate. Part of the take-off run was obscured by trees but the sound of the aircraft's engine was consistent with full throttle RPM. The video showed the aircraft getting airborne in a nose-high attitude with the left wing dropping until it struck the bush. This impact slewed the aircraft to the left and reduced its speed. Subsequent impact with the trees beside the warehouse was clearly recorded. Only two aspects of the take off seemed likely to have contributed to a performance deficit; firstly movement of the trees suggested that the surface wind reduced in speed and veered in direction during the take-off run, and secondly, the flaps were retracted.