

AAIB Bulletin No: 4/93

Ref: EW/G93/02/02

Category: 1c

Aircraft Type and Registration: Jodel D120, G-AYGG

No & Type of Engines: 1 Continental C90-14F piston engine

Year of Manufacture: 1960

Date & Time (UTC): 5 February 1993 at 1550 hrs

Location: Field near A1(M), Blyth, Nottinghamshire

Type of Flight: Private

Persons on Board: Crew - 1 Passengers - 1

Injuries: Crew - Minor Passengers - Minor

Nature of Damage: Extensive damage to landing gear, engine cowlings and canopy

Commander's Licence: Private Pilot's Licence with IMC and Night ratings

Commander's Age: 42 years

Commander's Flying Experience: 368 hours (of which 30 were on type)
Last 90 days - 3 hours
Last 28 days - Nil

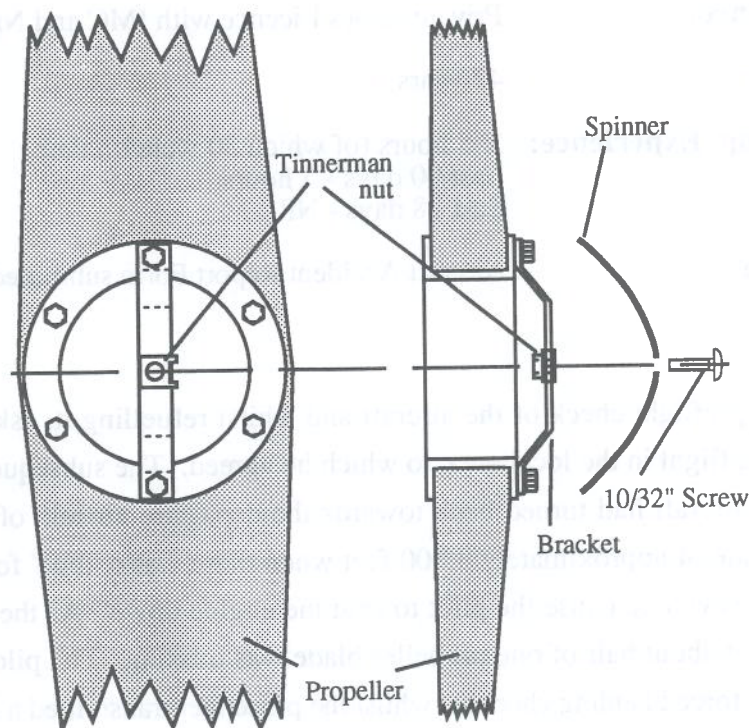
Information Source: Aircraft Accident Report Form submitted by the pilot

The pilot conducted a preflight check of the aircraft and whilst refuelling it, asked a colleague if he wished to join him on a flight in the local area, to which he agreed. The subsequent flight progressed uneventfully until the aircraft had turned back towards the departure airfield of Netherthorpe. The aircraft was at an altitude of approximately 3,000 feet when there was a 'thud' followed by vibration which was sufficiently severe to cause the pilot to shut the engine down. As the propeller came to a halt, it was apparent that about half of one propeller blade was missing. The pilot selected a landing field and completed the forced landing checklist whilst the passenger transmitted a MAYDAY message to Netherthorpe, on a hand held radio. The landing area of the selected field had been ploughed, with the result that the landing gear dug into the soft ground and the aircraft nosed-over onto its back. Both occupants, who were uninjured, managed to escape via the damaged canopy.

Subsequent inspection revealed that the propeller spinner was missing, and that the broken blade bore a paint smear of the same colour as the spinner. It was thus apparent that the spinner had become detached and then struck the propeller.

The spinner was of the 'scull cap' type, and the attachment details are shown in the accompanying diagram. The spinner was retained by a single, centrally located, 10/32 inch screw which engaged with a 'Tinnerman' nut that was located on a bracket mounted across the diameter of the propeller flange. An oversize hole in the bracket accommodated the screw such that the latter caused the nut to be retained on the bracket. Following the accident, the screw and Tinnerman nut could not be found, leading to the conclusion that the screw had become loose, allowing the spinner to detach.

Apart from the Jodel, this type of spinner is common on Piper Cub aircraft. However, neither the PFA nor the CAA had any record of a similar incident. Nevertheless, the PFA have stated that they will be issuing updated Notes to Inspectors, drawing attention to spinner security.



Propeller spinner attachment details-schematic