

## Fournier RF4D, G-AWLZ

|  |   |                      |
|--|---|----------------------|
| <b>AAIB Bulletin No: 7/2004</b>        | <b>Ref: EW/G2004/04/11</b>  | <b>Category: 1.3</b> |
| <b>Aircraft Type and Registration:</b> | Fournier RF4D, G-AWLZ   |                      |
| <b>No &amp; Type of Engines:</b>       | 1 Volkswagen 1600 piston engine   |                      |
| <b>Year of Manufacture:</b>            | 1968  |                      |
| <b>Date &amp; Time (UTC):</b>          | 13 April 2004 at 1800 hrs   |                      |
| <b>Location:</b>                       | Nympsfield, Gloucestershire   |                      |
| <b>Type of Flight:</b>                 | Private   |                      |
| <b>Persons on Board:</b>               | Crew - 1  | Passengers - None    |
| <b>Injuries:</b>                       | Crew - None   | Passengers - N/A     |
| <b>Nature of Damage:</b>               | Substantial to propeller, possible shock loading to engine and minor damage to fuselage |                      |
| <b>Commander's Licence:</b>            | Private Pilot's Licence   |                      |
| <b>Commander's Age:</b>                | 55 years  |                      |
| <b>Commander's Flying Experience:</b>  | 1,708 hours<br>(of which 153 were on type)  |                      |
|  | Last 90 days - 5 hours  |                      |
|  | Last 28 days - 5 hours  |                      |
| <b>Information Source:</b>             | Aircraft Accident Report Form submitted by the pilot and further AAIB enquiries         |                      |

The pilot reported that he was returning from a local flight conducted in very good flying conditions. At the start of the downwind leg he ran through the checks and lowered the single wheel landing gear, checking that it was in the down and locked position. Touchdown was smooth, but the landing gear did not prevent the fuselage from contacting the ground, causing damage to the propeller, scraping of the fuselage and possible shock load damage to the engine.

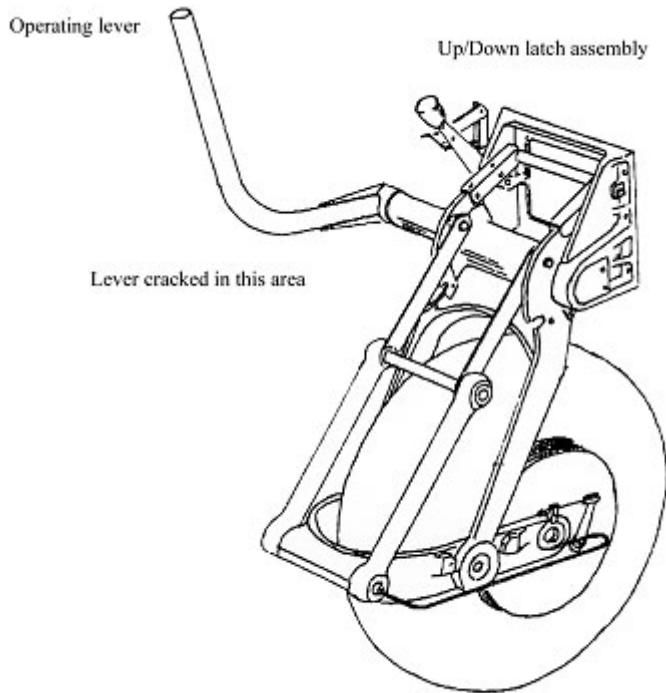
The aircraft was fitted with a single central landing wheel, which was retracted and extended manually by means of a hand operated lever welded to a cross tube. The landing gear was locked either up or down by a latch which was manually released but which would engage automatically when the cross tube, and thus the landing wheel, was in the fully extended or fully retracted position.

The maintenance organisation advised that a crack had been found at the base of the lever, and that it had separated from the rest of the assembly when the aircraft was recovered. Examination of the crack by the maintenance organisation showed that although the final fracture was new, there was evidence that some of the crack was old damage. It was surmised that the crack had been growing, so

that when the pilot moved the lever to the extended position, the lever moved without fully extending the gear or engaging the downlock latch.

The landing gear lever can be difficult to reach, and some pilots have been known to have had difficulty moving it fully forward and have used a foot to move the lever. It is well documented that very high forces can be exerted by foot pressure. In addition, the landing gear downstop is a strip of wood across the rear of the wheel bay, and on this aircraft it had become oil soaked and crushed allowing the gear to go beyond the point where the downlock latch would engage properly.

### Landing Wheel General Arrangement



LANDING WHEEL GENERAL ARRANGEMENT

The area of the fracture is not easy to inspect, and this may account for these defects going undetected until the failure occurred.