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JABIRU MAINWHEELS - CRACKING AT WHEEL BOLT HOLES.

Two instances of cracking at wheel to hub attachment bolt holes have been reported one of which involved collapse of a wheel after landing. Owners and operators should adhere diligently to maintenance schedules which require regular inspection for cracking.

Background. Two reports have been received recently regarding cracking of Jabiru Main wheels. One involved actual failure of a wheel as the aircraft was taxiing back to the lines following a landing, the other involved cracking being discovered during inspection.

The Jabiru mainwheel assembly is made up of two pressed steel circular halves which are bolted together just inside the inner contour of the tyre. The wheel is then bolted to the hub on the axle by four bolt and nut assys which pass through the hub and the wheel.

The failures are cracks occurring in the pressings where they are in contact with the bolt heads in one of the halves and the washers beneath the nuts on the other. In an example forwarded to the Office, the cracks propagate from beneath the bolt heads and the nuts (or the washers beneath the nuts) inwards toward the axle and in some cases actually travel to the edge of the large hole through which the hub passes. From the example in the Office, these cracks in the outboard half (ie the half visible by looking toward the fuselage) should be easily visible by inspection without removing the wheel.

No information on crack propagation rate is available and it would, of course, depend on the type of operation and terrain to which the wheel is subjected. The example forwarded to the Office had experienced something like 3,500 landings. Jabiru note that the Service Manual at Section 2 specifies Mainwheel inspection at 50 hour intervals and Section 5.4.3 (2) specifies inspection for cracks as part of mainwheel inspection.

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