

LAA/AWA/14/06
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Tipsy Nipper – All Variants

Inspection of Mainplane Attachment Bolts

LAA Engineering has recently published an Airworthiness Information Leaflet (AIL) MOD/025/003 issue 1) prohibiting aerobatics until a Magnetic Particle Inspection (MPI) of both main wing attachment bolts (when fitted), demonstrating that the bolt is free from cracks, has been completed. In any event, this inspection must be completed within five flying hours. This MPI is not required on wing attachments that use tie rods.

In February 2013 a US registered Avions Fairey Tipsy Nipper suffered, what appeared to be at the time, an in-flight wing structure failure; the aircraft crashed near an interstate highway in California and the pilot was killed. Investigators subsequently discovered nearby the remains of a Turkey Vulture and, after DNA tests, it became clear that the bird and the aircraft had been involved in an airborne collision.

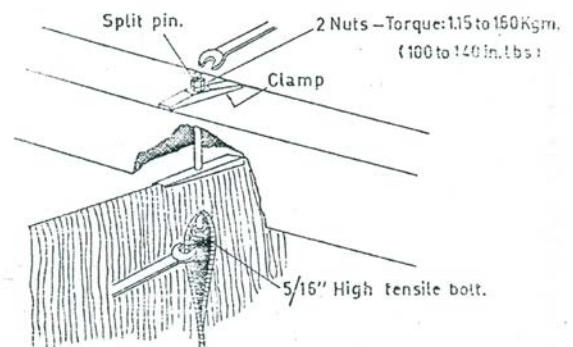


Fig. 1 Sketch of Nipper main wing bolt

Because of this incident, an LAA member who owns a Tipsy Nipper, was inspired to remove and inspect the two main wing-to-fuselage attachment bolts on his aircraft; examination of these components revealed a serious crack in one of them (between the bolt's head and shaft).

The Avions Fairey Tipsy Nipper has been manufactured in both ready-to-fly and self-assembly kit forms since 1952. Both kits and completed aircraft have been supplied under licence by a number of manufacturers in the UK and overseas but, essentially, all variants of the design rely on either two bolts or two stud-like tie-rods to attach the wing to the fuselage.

The AIL requires owners to first establish whether bolts or tie rods are used to connect the wing to the fuselage; this inspection can be carried out by the owner alone. Should tie rods be fitted, a note to this effect must be made in the aircraft's airframe log book and the aircraft may resume normal service. If bolts are fitted then they will need to be removed and MPI Inspected (or replaced) before further aerobatic flight.

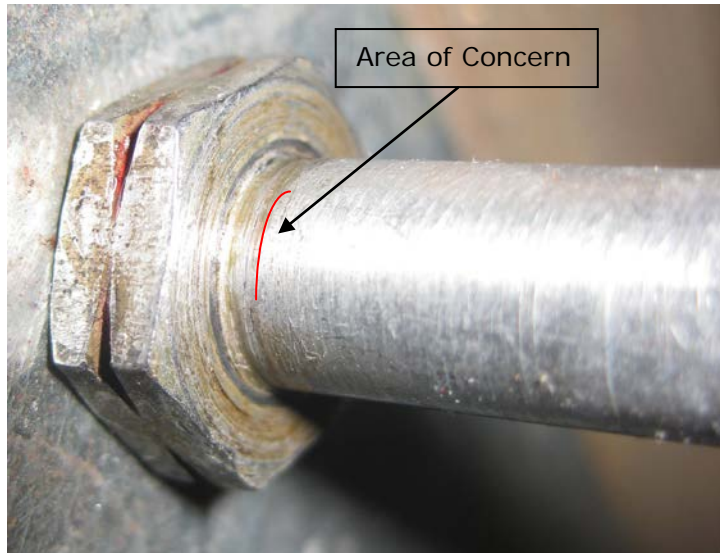


Fig. 2 A Nipper bolt head showing area of concern

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A copy of LAA/MOD/025/003 issue 1 can be downloaded from [HERE](#).