



**UNITED KINGDOM
CIVIL AVIATION AUTHORITY**

MPD No: 1995-103

MANDATORY PERMIT DIRECTIVE

The following action required by this Mandatory Permit Directive (MPD) is mandatory for applicable aircraft registered in the United Kingdom operating on a UK CAA Permit to Fly.

MPD: 1995-103 MICROLIGHTS

Subject: Special Inspections – Warp Drive ‘Standard Hub’ propellers.

Applicability: Microlights fitted with Warp Drive propellers.

Reason: One of the hub plates of a Warp Drive propeller fitted to a Rotax 582 in a PFA aircraft was recently found to have cracked through fatigue after very few running hours. The propeller hub concerned was the Warp Drive ‘Standard Hub’, in which the hub consists of two flat aluminium plates with blades sandwiched between the two using plastic spacer blocks. The crack occurred in the plate adjacent to the propeller driving flange, which is the more highly loaded of the two plates. The crack propagated almost three-quarters of the way across the plate before being noticed during a pre-flight inspection. There is evidence that the crack may have developed in less than two hours operating time. There have been two earlier such occurrences, and as a result, Warp Drive introduced a design change in 1991 to incorporate a 1/8" thick steel disc adjacent to the ‘engine side’ hub plate to better spread the load. This is referred to as a ‘Spacer Support Plate’. At the same time, the rear plate material was changed from 6061 to 2024 grade aluminium. Cracks present in ‘pre-Mod’ hub plates may result in the catastrophic failure of the propeller. All aircraft fitted with these propellers are administered by either the PFA or BMAA. Both organisations have issued instructions for Special Inspections.

Compliance: Before further flight comply with either:

- (a) PFA Special Inspection – Warp Drive ‘Standard Hub’ Propellers Ref PFA / WDP / 001 dated 27 March 1995
- (b) BMAA Defect Report No: (95)-401 dated 4 April 1995

This MPD becomes effective on 29 December 1995 and supersedes Letter to Owners / Operators No 1443.

Enquiries regarding this MPD should be made to the United Kingdom Civil Aviation Authority, Aircraft Maintenance Approvals Section, Safety Regulation Group, Aviation House, Gatwick Airport South, West Sussex RH6 0YR. Telephone: +44 (0)1293 573149 Telefax: +44 (0)1293 573993.