



Light Aircraft Association MANDATORY TECHNICAL DIRECTIVE



Compliance with this Mandatory Technical Directive (MTD) is considered mandatory for applicable aircraft registered in the United Kingdom operating on an LAA administered Permit to Fly. Note: An LAA MTD is equivalent to the previous LAA AIL Classification A.

Reference Number

MTD-02-2026

Date of Issue

XX.XX.2026

Manufacturer's Name

E-Props Propellers

Model/Designation(s)

All E-Props propellers with a carbon hub

TADS:
NONE

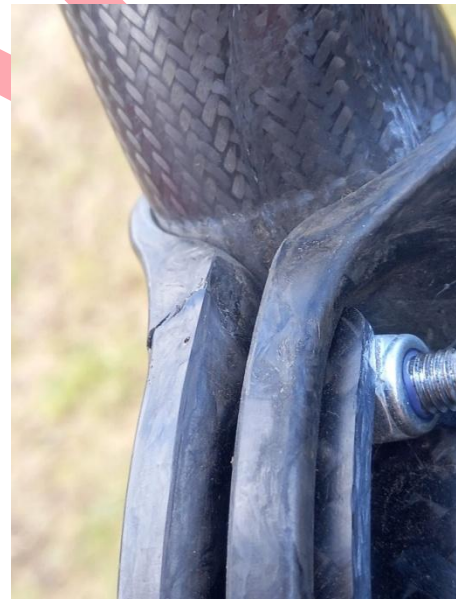
Applicability

All aircraft operating under an LAA Permit to Fly fitted with an E-Props propeller with a carbon fibre reinforced polymer (CFRP) hub

Subject

Cracking in E-Props Carbon Propeller Hubs

A 2025 report of a crack appearing on an E-Props carbon composite propeller hub was received by the British Microlight Aircraft Association (BMAA), as shown in the photos below. The crack was in the flange forming the periphery of the circular hub, in the close vicinity of one of the bolts in the outer ring of blade clamping bolts.



Reason

These cracks were the subject of LAA Alert A-10-2025, which requested that any evidence of cracks be reported to LAA Engineering before further flight. Since publication of this Alert, Engineering has taken advice on the subject, concluding that these cracks are most likely caused by over-tightening of the bolts as suggested by E-Props.



Although rapid propagation of a crack is unlikely due to the material properties of carbon (CFRP) hubs, in which the millions of fibres act as crack stoppers, the presence of these cracks may result in:

- a. Reduced clamping force, possibly allowing changes in blade pitch.
- b. Compromised blade root security in bending, possibly allowing the blade root to fret in the hub.

Given the implications of reduced clamping force and blade security for flight, this MTD is raised to mandate the removal of cracked E-Props carbon (CFRP) hubs from service.

Although E-Props maintain that these cracks do not pose a safety risk, LAA Engineering has not received sufficient evidence to support this, particularly in regards to the long-term reliability of cracked carbon (CFRP) hubs.

Required Action(s)	<p>Operators of aircraft fitted with E-Props carbon (CFRP) hubs must:</p> <ol style="list-style-type: none"> 1. Inspect the propeller hub, removing the spinner as necessary, to check for any signs of cracking, paying special attention to the flange forming the periphery of the circular hub and the vicinity of any bolts. 2. If any cracks are detected, before further flight, the hub must be replaced with a serviceable, uncracked hub or the propeller replaced with an alternative propeller approved for that aircraft. <p>Repeat action:</p> <ol style="list-style-type: none"> 3. The inspection in Step 1 must be repeated at intervals not exceeding one calendar year. 		
Compliance Time(s)	<p>Initial Compliance Initial inspection of the hub to be carried out within the next 5 flying hours from the effective date of this MTD.</p> <p>Repeated Compliance The inspection in Step 1 must be repeated at intervals not exceeding one calendar year.</p>		
Certification	<p>An entry must be made in the 'white pages' of the airframe logbook stating that Mandatory Technical Directive MTD-02-2026 has been complied with, detailing whether the propeller was found to be serviceable. This entry must be certified with a PMR statement by the suitably-approved LAA Inspector supervising the task as well as an entry in the logbook pink pages (or equivalent method for tracking continued airworthiness compliance).</p> <p>When a hub is replaced, an entry must be made in the 'white pages' of the airframe logbook to record the work carried out, including the model and serial number of the replacement hub. The entry must be certified with a PMR statement by the suitably-approved LAA Inspector supervising the task.</p>		
Effective Date	XX Month 2026		
Reference Publications	None		
Associated Documents	LAA Alert A-10-2025		
Remarks	<p>With carbon propeller hubs, bolt preload is likely to drop during early hours of use due to resin creep. Correct torque and repeated re-torque checks are essential until the assembly stabilises. The manufacturer's torque specification must never be exceeded.</p> <p>If preload is lost, the propeller blade can move, causing fretting, bolt failures, and potentially unintended changes in blade pitch.</p>		
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