LIGHT AIRCRAFT ASSOCIATION

LAA PROPELLER TYPE LIST – PTL/1

When referenced in the Operating Limitations document (part of the Permit to Fly) issued to a particular aircraft, this document lists the aircraft/propeller combinations that are acceptable for installation on that aircraft to the LAA. This is subject to satisfying the notes overleaf and any special notes below.

When relying on this document for propeller 'approval', a copy of this document (including the notes overleaf) must be kept with the aircraft records and made available to the LAA inspector on request.

AIRCRAFT TYPE: **EUROPA AND EUROPA XS**

ENGINE TYPE: **ROTAX 912-UL (2.27:1 REDUCTION)**

PROP MANUFACTURER & MODEL DESIGNATION	PROP DIAMETER & PITCH	SPECIAL NOTES
WARP DRIVE RPM 3 BLADED WITH TAPERED BLADES AND HP HUB.	**62 inches diameter maximum except Tri-gear aircraft or 'XS' engine installation: between 62 and 64 inches diameter.**	**3 bladed ground adjustable composite propeller.** **Maximum static RPM to be between 4800 and 5500.** **Aircraft with maximum authorised gross weight of 1370lbs: maximum static RPM to be no less than 5200.**

ENGINE TYPE: **ROTAX 912-ULS AND 914-UL (2.43:1 REDUCTION)**

PROP MANUFACTURER & MODEL DESIGNATION	PROP DIAMETER & PITCH	SPECIAL NOTES
WARP DRIVE RPM 3 BLADED WITH NON-TAPERED BLADES AND HP HUB.	**64 inches diameter.**	**3 bladed ground adjustable composite propeller.** **Maximum static RPM to be between 4800 and 5500.**

NOTE: Various in-flight adjustable propellers, including the Airmaster AP332, Arplast PV50, Hoffmann, MT, NSI CAP-140, Woodcomp SR2000, SR3000 and Varia, have previously been LAA approved on Rotax engine powered Europa or Europa XS aircraft however these propellers are NOT included on this PTL/1. Application for flight test, authorised by LAA Engineering, is necessary for each individual installation, using the appropriate form that is available from the LAA web site or LAA headquarters. The same diameter limits apply as described in the Warp Drive propeller section.

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LAA PROPELLER TYPE LIST - PTL/1 - NOTES

Procedure
There are two sources of information which may be used to determine which particular propeller(s) may be fitted to a particular LAA aircraft:

a) The Operating Limitations issued for a specific aircraft may list one or more propellers, specifying model type and often pitch and diameter. Propellers, which are exactly as any of those listed, may be installed.

b) If the aircraft's Operating Limitations refer to propellers 'as LAA Propeller Type List - PTL/1' then any propellers listed on the PTL/1 for that particular aircraft/engine combination are acceptable, as defined thereon.

Propellers determined as acceptable in 'a' and/or 'b' above may be installed subject to satisfying the conditions and points of attention below. Note that the Operating Limitations form part of the Permit to Fly. Fitment of any propeller not described as above will invalidate the aircraft's Permit to Fly, and to avoid illegal flight may only be used when application has been made to LAA Engineering and a test flight authorisation issued.

When relying on PTL/1 as a source of reference for propeller 'approval', the owner must obtain a copy of the appropriate PTL/1 from LAA Engineering and retain it in the aircraft records. At Permit renewal LAA inspectors must check that the installed propeller is appropriate and 'approved'. Owners must therefore ensure that the aircraft's Operating Limitations document and PTL/1 if appropriate is/are available to the inspector for this purpose.

Before Installation
Propellers should be positively identified and be inspected and checked, along with their attaching hardware, to be free from damage, be properly balanced and in good airworthy condition prior to fitment. Checks should be made to ensure the propeller is in compliance with all applicable Service Bulletins and Airworthiness Directives etc.

Installation
Propellers must be installed in accordance with propeller and aircraft/engine manufacturer's instructions. Where no such instructions exist, then normal aircraft engineering 'best practise' applies. The propeller installation must be inspected by a suitable LAA inspector who should in particular consult 'Notes To LAA Aircraft Inspectors' (SPARS) – Procedures Section.

Ground Run
Before test flying, engine ground runs must be carried out and satisfactory results achieved and recorded. Maximum static engine rpm should be documented.

First Flight
The first flight with a 'new' propeller must be regarded and conducted as if it were a 'test flight'. The flight test should be used to check that propeller overall performance is satisfactory, and results should be recorded in the aircraft logbooks and/or worksheets.

Microlight Aircraft
If the aircraft on which the propeller is being installed is a microlight, then a new Noise Certificate must be obtained from the CAA Noise Certification Department. This is a legal requirement. A copy should be provided to LAA Engineering. CAA Noise Certification Department, Tel No 01293 573306.

Log Book Entry & Worksheet
Propeller changes must be recorded in the airframe logbook and the entry signed by a LAA inspector to indicate his satisfaction. In the case of variable pitch propellers, a dedicated propeller logbook must also be maintained (CAP 400).

Weight Schedule
Changes to propeller type will often result in a need to amend the aircraft's weight schedule. This may be achieved by calculation if the exact weights and moments of parts fitted versus parts removed are known. Otherwise it will be necessary to reweigh the aircraft. New/amended weight schedules should be copied to LAA Engineering.

Special Notes
Attention must be paid to any special notes appearing overleaf which apply to the particular aircraft type and model/propeller combination in question.