



HI-TECH CARBON
PROPELLERS



PITCH ADJUSTMENT : E-PROPS PROPELLERS

Some E-Props carbon propellers are with ground adjustable pitch. It means that the blades pitch is fixed during the assembly of the propeller, and can be changed depending on the use.



The pitch adjustment must be carefully done by the user, and of course must be the same for all blades. If the pitch is not the same on each blade, the performances can be degraded, and this could generate some vibrations. Those vibrations could be noticeable in flight, sometimes not on ground.

Be careful : a gap of pitch of 1° may cause some important problems.

Please note : if some vibrations appear in flight, first verify the pitch of the blades.

The gap between the pitch of different blades must not exceed 0,3°.

A first recommended pitch blade angle is given by E-Props on the Propeller Identification Sheet (included in the documents of the propeller). This value depends on the propeller's model, the engine, the reducer (if any) and the aircraft.

The pitch's adjustment allows the user to choose the engine RPM full throttle.

Depending on the use of his aircraft and on his wishes, the owner / pilot will adapt the pitch of the blades.

Be careful : some models with needles have to be calibrated before use.

BE CAREFULL : you must first assemble the propeller and SET THE GOOD PITCH OF THE BLADES BEFORE PLACING THE SPINNER, otherwise the blades could touch the edge of the spinner.

Examples of Pitch Adjustment

1- SAVANNAH ultralight with ROTAX 912s engine (100hp) reducer 2,43

Propeller : Durandal 100 L diameter 180 cm

Use : flights in mountain, very short runways

Propeller adjustment : pitch = 5800 RPM, full throttle, horizontal flight

With this pitch, during take-off, the engine RPM is 5700 RPM, with allows a very short take-off.

2- JMB AIRCRAFT VL3 with ROTAX 912s engine (100hp) reducer 2,43

Propeller : Durandal 100 M diameter 170 cm

Use : long navigations

Propeller adjustment : pitch = 5500 RPM, full throttle, horizontal flight

With this pitch, during take-off, the engine RPM is also 5500 RPM. The cruise flight is fast and comfortable. The performances at take-off are still very good (even as good as with a variable pitch propeller) due to the ESR effect of the E-Props propeller.

3- AUTOGYRO MTO Sport with ROTAX 914 engine (115hp) reducer 2,43

Propeller : Excalibur-6 diameter 172 cm

Use : local flights, navigations

Propeller adjustment : pitch = 5800 RPM, full throttle, horizontal flight

With this pitch, during take-off, the engine RPM is 5800 RPM, with allows a very short take-off and a very good climb rate.

PDF FILE : Pitch adjustment of E-Props propellers for Rotax serie 9

Setting procedure, or how to reach the maximum RPM as wanted :

*the increase of the pitch decreases the engine RPM
the decrease of the pitch increases the engine RPM*

On a Rotax 912S, an increase of **0,6°** of the pitch decreases the engine RPM of 100 RPM.

On a direct drive engine (Jabiru, D-Motor, UL-Power), to increase the pitch of **0,9°** decreases the RPM of 100 RPM.

Example : in horizontal flight, full throttle, the engine is running at 5700 RPM. The pilot wants 5500 RPM.

The difference is 200 RPM. It is necessary to increase the pitch of 1,2°.

Pitch Adjustment / Tightening of the propellers screws

Please consult :

INSTRUCTION and SERVICE MANUAL - GROUND ADJUSTABLE PITCH E-PROPS PROPELLER



The propeller is not an accessory : before the assembly, read the Manual