PITCH ADJUSTMENT

On the Rotax engines 9 series (912 to 915), **the pitch adjustment for which the E-PROPS propeller would give the best performances on the whole speed range of the aircraft is obtained at 5.500 RPM, full throttle, horizontal flight**. So it is recommended to refine the pitch adjustment to obtain this value when you put full throttle in flight.

Of course this does not mean you must fly at 5.500 RPM in cruise : it is just the good value to obtain the best adjustment of the blades pitch.

So on Rotax engines 9 series, the best way to obtain the best pitch of your E-PROPS propeller, which will give the best performances on the whole speed range of the aircraft, is to :

➔ First adjust the recommended pitch value (on the Propeller Identification Sheet).

➔ Then on ground put full throttle to verify the max RPM : if you have between 5.100 and 5.800 RPM, you can go flying. If not, then adjust to pitch to obtain between min 5.100 and max 5.800 RPM on ground.

➔ Then fly horizontally and measure how many RPM you have when you put full throttle : if you have about 5.500 RPM (+/- 50 RPM), it's perfect.

➔ If not, then adjust the pitch to obtain 5.500 max RPM in horizontal flight full throttle. On a Rotax 9 series, an increase of 0,6° of the pitch decreases the engine RPM of 100 RPM. A decrease of 0,6° of the pitch increases the engine RPM of 100 RPM.
For example, in horizontal flight, full throttle, the engine is running at 5.700 RPM. The pilot wants 5.500 RPM. The difference is 2 x 100 RPM. It is necessary to increase the blade's pitch of 2 x 0,6° = 1,2°.

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Examples :

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.