

Setting of minimum and maximum angle of attack on in-flight adjustable propeller VARIA

A) Setting of minimum angle

Minimum angle is set during ground engine test to achieve maximum permissible long-term engine rpm at full throttle, with propeller installed. (For ROTAX 912, this corresponds to 5500rpm)

Procedure:

- 1) Loosen two socket head bolts M5 to loosen angle setting body.



- 2) Remove angle setting body to gain access to rod with minimum angle setting mechanism.



- 3) Loosen locking nut using #8 wrench. At the same, hold shaped angle setting nut in place using #10 wrench.



- 4) Set minimum blade pitch using shaped angle setting nut. Screwing out reduces the angle, screwing in increases the angle.



- 5) Secure minimum angle setting nut by tightening the locking nut using #8 wrench. At the same, hold shaped angle setting nut in place using #10 wrench.



- 6) Replace angle setting body. Before replacing it, check its location on propeller hub – correct location is marked with centering inspection number. Use Loctite to secure socket head screws M5 and torque slightly, using no more than 4Nm.





TIP: fast and precise setting of minimum angle of attack can be performed on the aircraft after installation of propeller with accessories. Procedure:

Step 1) Remove propeller spinner and angle setting body.

Step 2) Choke the wheels, prevent the aircraft from moving, start the engine and heat it to operating temperature.

Step 3) Slowly increase throttle setting to reach maximum engine rpm; use propeller pitch control in the cab to actually achieve maximum permitted take-off engine rpm. At this setting, close the throttle and switch off the engine.

Step 4) Adjust minimum angle setting nut so that it touches propeller hub. Secure it using locking nut.

Step 5) Replace angle setting body to original position according to instruction manual; replace propeller spinner.

ALWAYS PERFORM THIS ADJUSTMENT UNDER SUPERVISION OF EXPERIENCED PILOT, MECHANIC, OR FLIGHT INSTRUCTOR!!!

B) Setting of maximum angle

IMPORTANT! Maximum angle must be set to a value which guarantees keeping level flight on full throttle at approach speed! This setting depends on particular aircraft and it must be adjusted under favourable weather and in conditions suitable for safety landing.

Procedure:

- 1) Maximum angle of attack is set using M6 screw with M6 locking nut on angle setting body. First of all, loosen M6 locking nut.



- 2) Set M6 screw to maximum angle of attack position.



- 3) Secure M6 screw using M6 locking nut to keep it from turning.



TIP: fast and precise setting of maximum angle of attack can be performed on the aircraft after installation of propeller with accessories. Procedure:

Step 1) Remove propeller spinner and angle setting body.

Step 2) Use propeller pitch control in the cab to set maximum angle which guarantees keeping level flight on full throttle at approach speed. Land the aircraft using this blade setting and switch off the engine.

Step 3) Loosen M6 locking nut and screw in M6 screw so that it touches the stop.

Step 4) Secure M6 screw using M6 locking nut. Replace propeller spinner.

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