

Figure 1

In straight and level flight when we roll to the right we imagine opposing forces applied to the rotor head resulting in a perfect axial roll (Figure 1). Unfortunately due to the effects of drag the blade lags behind the rotor, so when the right roll is started the force is not applied square but in front of and behind the heli C of G resulting in a pitch as well as a roll force - nose down for a right roll. The faster the HS the more pronounced the effect (Figure 2).

In order to compensate for the blade lag and mixing of control inputs we can advance the position of the rotor head relative to the swash control input - so called phasing adjustment. This results in the rolling force is input from the radio via the swash being effected when the blades are square to the rotor head and C of G (Figure 3) - this results in an axial roll. On the Knight 3D and Odin we offer adjustable phasing to be able to fine tune the differing resistance of differing makes and designs of blade. On the Atom we offer a simpler system and have found that the built in phasing angle of 4-5° accommodates most blades available.

Luke

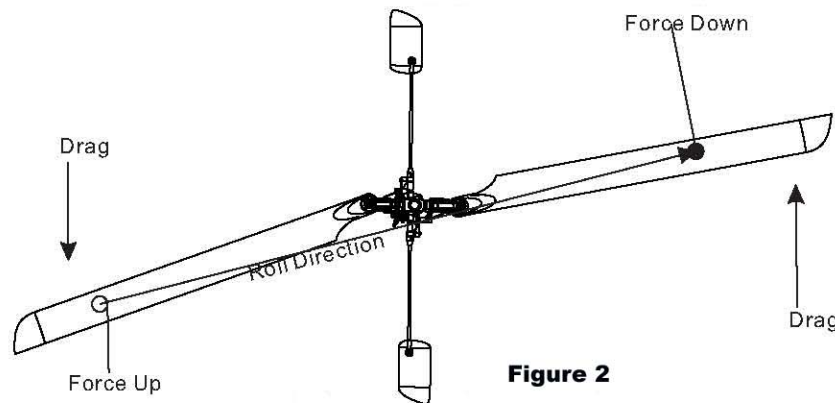


Figure 2

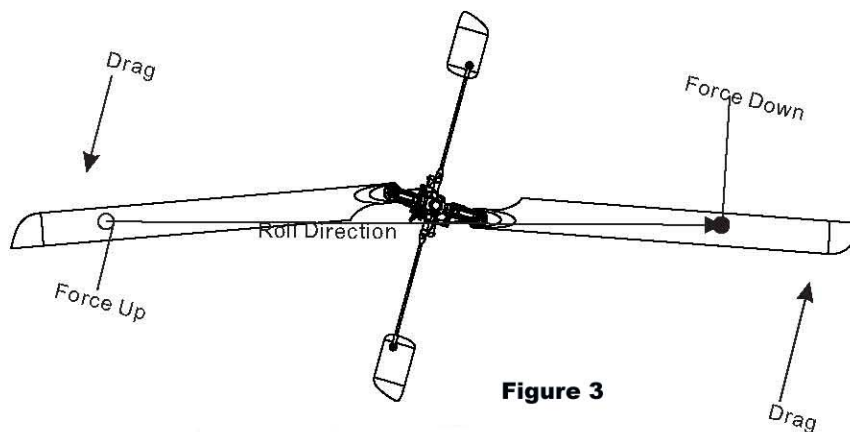


Figure 3