

# POWER FLYING — RIGHT TURN, LEFT ROLL OR BOTH?

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Every power flier, when discussing the power pattern of his favorite model, will state that his (or her) model "turns" to the right under power (that is, if it is a low thrust model). We have been saying this for as long as there has been an engine. However, I am here to say that we are wrong! Before you throw this article into the garbage and say I have lost my mind, listen to what I have to say.

This all began when I got a phone call from a fellow power flier stating that he was having problems with his locked-down model transitioning from power to glide. I tried to explain to him that the model needed to "turn" during the power pattern to facilitate the transition. During the discussion he told me how he was trying to use rudder to "turn" the model in power and later in the pattern the model would straighten out and thus, no transition.

I stated that rudder was not the best way to accomplish what he was trying to do and that wing aerodynamics was causing his problem. This is the time that it dawned on me that many folks don't fully understand what the model is actually doing. So, here is where I will again state that our models, in power, do not turn right!

I want you to put the Digest on the table in front of you and hold up your right hand, palm away from you. Your hand is the model. Using your hand, pretend it is your model in a vertical climb. Try to duplicate the perfect power pattern. It will be climbing vertically and your little finger will be rotating clockwise. Now, what is that clockwise vertical motion called? It is a roll. Now, which way is it rolling? Correct, it is rolling left!

So, what we keep calling a right turn is actually a left roll. What do we normally do with the right inner panel? We wash the wing in (trailing edge down). Thus, when the speed of the model increases, that panel will tend to lift and roll the model to the left. This gives us what we commonly referred to as the right turn.

If we roll left, what really is a right turn? Place the model in glide. The wings are nearly level. If the model is in a clockwise circle, then it is turning right. Why the difference? Think of the axis of the fuselage and its relationship to the ground. If the wing rotates around that axis, it is a roll. If the axis of the fuselage (and wing) is parallel to the ground, then it is a turn.

Why is this so important? Because it will change how you trim the power portion of the flight. You will see that adding rudder may not be what you really need to do to make the power pattern what you want. If the model is climbing quite vertical (this may not have the same effect on an old timer or sport model) and the model is not rolling enough (not enough

"right turn") then you may need more wash-in on the right inner panel. If the model straightens out later in the flight (note: higher airspeed) then the wash in the wing may be incorrect (too much). Realize that aerodynamics take over at higher speeds as compared to engine thrust. So this is why wash or wing twist will tend to show itself later in the run. It sometimes helps to have a friend watch the pattern from a distance. He may be able to shed some light on what is actually happening.

So, I will still hold my ground and state: there is no right turn in power! Good luck and think of this when you are trying to trim that new model.