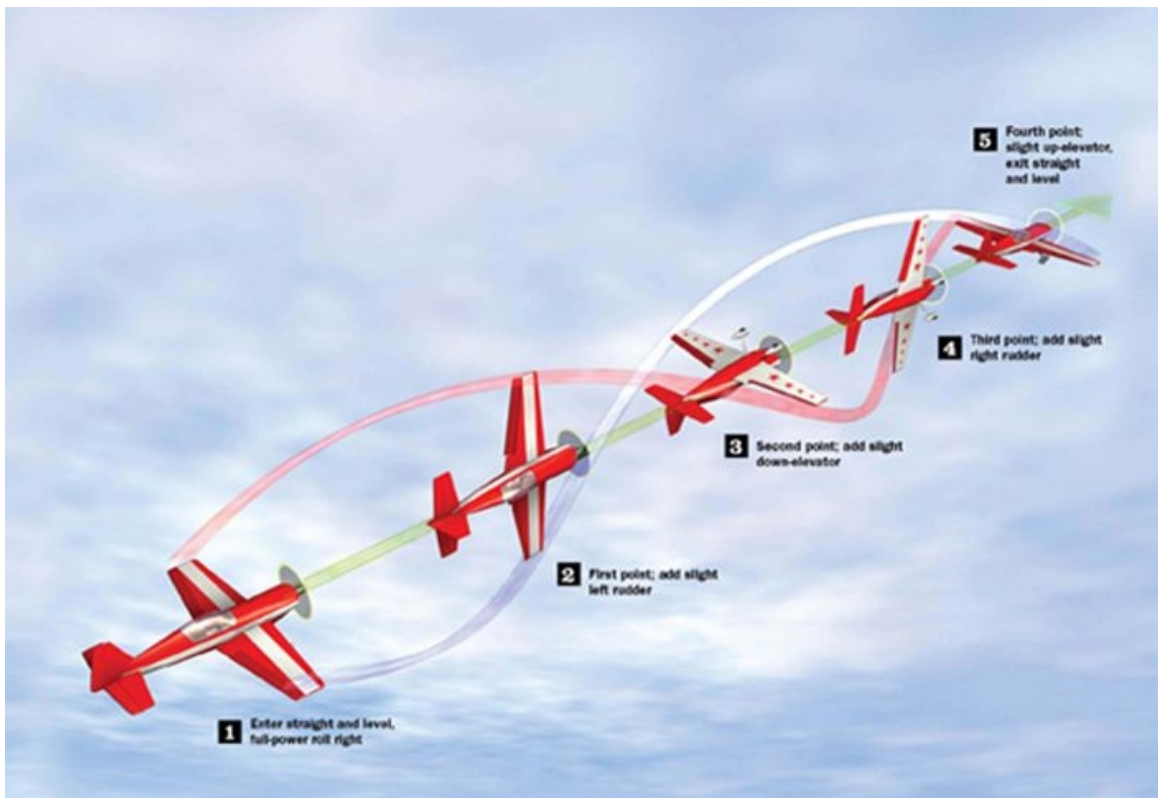


Hesitation Rolls or Point Rolls from RCSD

The Four Point (Hesitation) Roll

This maneuver is much more difficult to do well and requires a lot of airspeed. I suggest you first try this in parts doing only the first 90 degrees of the roll and then fly back to level again. Once you have mastered this, go 90 and 180 degrees; after that go to 90-180-270 degrees and then... by Jove! You've got it! Remember to do an equal hesitation at each point in the roll. The longer you hesitate, the more impressive this point roll will be and the more difficult.



From Model Airplane News

There are a couple of ways to approach the four point hesitation roll depending on what type of model you are flying and how long you wish to hesitate between the four points. A quick hesitation can be flown as follows.

The (faster) Four-Point Hesitation Roll

This maneuver is easiest with a good, snappy (crisp on the controls) model. Gain enough airspeed, then pull up a bit past level, give full ailerons (one way or the other), and stop ailerons exactly at 90-180-270 and 360 degrees of rotation. You might need to add a little bit of down elevator when your model is inverted. Try this and see how it works. Airspeed, airspeed, AIRSPEED!

The idea is to fly the whole maneuver as straight and level as you can. The tendency in flight is to start to drop the nose. If you fly slowly, the ailerons will not "bite" and will produce a slow rate of roll, which you don't want. If you arc in the middle of the

maneuver, the slower you fly (low airspeed) the more the nose will drop, and the less effective the ailerons will be making it more difficult for you to complete the maneuver. That's why lots of airspeed is so important.

You might need to start the four-point roll with the model nose up and end the maneuver nosed down. However you approach it, the whole maneuver should be symmetrical, meaning it should either be executed straight and level or it should follow a barely noticeable horizontal arc. You will want to draw attention to the point roll you are doing, but you want to hide the fact that you may not be able to do it straight and level.

The difficulty of this maneuver will vary greatly from model to model. With some, the four-point roll will be quite easy, while with others this will be a very difficult maneuver to do well. As always, practice makes perfect!

Approach the four-point roll little by little, mastering parts of it at a time. As mentioned earlier, master the first 90 degree rotation first, then add the second point at the 180 degree hesitation, then add the third, and so on. You can practice the last two points in the four point roll by doing a half loop, then flying inverted and, from there, trying the 270 degree hesitation and back to level flight.

Once you have mastered this four point roll, you are ready to try another variation of this hesitation roll.

The (slower) Four Point Hesitation Roll

More difficult, but also more spectacular, is the 4-point roll with longer hesitations. The longer you hesitate, the more likely the model's nose will begin to drop. To counteract this tendency, you will need to add top rudder at the 90 and 270 degree points and down elevator at 180 degrees when inverted. [Top rudder is explained below] In order to perform this maneuver well, you will most likely need to combine and coordinate inputs of rudder, aileron, and elevator with just the right points in the roll as follows. This is going to sound complicated at first, but it's really much simpler than you might think. Now stop reading! Take a break.

That's right, put RCSD down, get up and go find your radio transmitter and let's run through this maneuver with you holding your transmitter. This will be much easier for you to understand if you are steering with the sticks. Now for some hands-on couch flying!

Are you now holding your radio in your hands? OK, ready or not, here we go! Let's run through a (long) four-point roll to the right. Pick up a lot of airspeed, bring the model to straight and level, now:

Roll to the RIGHT (with ailerons) to the 90° position, stop the roll, and add top LEFT rudder. Notice that both sticks go out away from each other (when you roll to the RIGHT top rudder is to the left).

Roll RIGHT (with ailerons) to the 180° inverted position, stop the roll, add down elevator if necessary to keep the nose up.

Roll RIGHT (with ailerons) to 270° (stop the roll) and add top RIGHT rudder. Now the aileron and rudder sticks both push to the RIGHT in the same direction as your roll.

Roll RIGHT (with ailerons) 90° back to level flight.

What is Top Rudder?

By now I am quite certain that you have figured out what TOP RUDDER is, but just in case it's unclear to you, let me explain.

When the airplane is flying sideways on, the rudder is in the horizontal position and it can act like an elevator to some extent. Adding rudder in such a way as to bring the tail down, will help keep the nose up. [The rudder goes to the top] Some of you have seen powered aerobatic stunt airplanes perform top rudder at air shows quite low to the ground. The airplane literally flies straight and level but sideways on, held off the ground by the powerful (top) rudder. [In the UK we call this knife edge].

Now, run through the 4-point slow hesitation roll once again while holding your transmitter. And then it's off to the flying field, or better yet the slope, to try this out for real. It's really only a question of learning where and when to add (top) rudder, ailerons and (down) elevator.