Like most aerobatic maneuvers, loops can be done with precision and artistry. All that’s required on your part is a little practice. Although there are many variations of the loop, we will concentrate on three types. First is the basic inside loop, which just about any plane can perform. Next is an outside loop that requires an aerobatic plane; this maneuver exerts a fair amount of stress on the wing. The final variation is called a square loop because it outlines a square box with rounded corners.

### The inside loop

The inside loop (the top of the wing will face the inside of the loop when you perform it) is the most common and easiest maneuver for novice pilots to do. Performing a loop with precision and perfection, however, requires a great deal of practice. It also requires the pilot to make corrections throughout the loop by adjusting the elevator, throttle, ailerons and rudder. To begin, enter the loop with your plane flying straight and level into the wind. Depending on the size of your motor, you can use anywhere from $\frac{1}{2}$ to full throttle. Apply up-elevator and begin flying the first quarter of the loop. This will establish the radius that you should maintain throughout the entire maneuver to make it round.

You’ll most likely have to correct the model’s heading with a bit of rudder input. At just about a third of the way through the loop, ease off on the elevator a little and reduce the throttle to about $\frac{1}{4}$. At the loop’s top, or apex, ease off on most of the elevator to maintain the loop’s radius, and adjust the throttle so that it’s between $\frac{1}{4}$ and a fast idle. The plane will start down the back side of the loop; as it does, gradually add elevator and reduce the throttle to idle. Throttle adjustments will depend on how much wind there is and how fast your plane picks up speed as it heads down the back side. Remember to maintain the loop’s radius and heading while keeping the plane at a constant speed. Use elevator to complete the last quarter of the loop while increasing throttle to maintain a constant speed and bring the plane back to straight and level flight. The plane will now exit the loop at the same altitude and speed as it entered.

### Making corrections throughout the loop

Performing loops (inside, outside, or square) may require a number of corrections throughout the entire

---

**The inside scoop on inside loops**

The inside loop is probably the first aerobatic maneuver you ever performed. During level flight, many instructors tell their students to pull back on the elevator stick and keep holding it until the plane comes around and is level again. You, the student, are amazed; you’ve just completed your very first aerobatic maneuver! Excited about your accomplishment, you’re now ready to move on to more advanced and difficult maneuvers.
Aerobatics made easy

The plane’s heading or slight roll tendencies can be corrected throughout the loop with rudder management. Heavier roll problems will need additional correction from aileron input. Maintaining a flat wing position throughout the loop can also be accomplished with aileron control.

The aircraft’s speed will require adjustment from the throttle, while the loop’s radius is established and maintained with elevator input. All control inputs should be made smoothly and gradually, using only enough control to correct any deviation from a perfect loop.

Outside loop—upright entry
The outside loop (the top of the wing will face outside the loop as you perform it) can be executed with either an upright or an inverted entry. When you first learn this maneuver, it is best to enter it from the upright position. Enter the loop at least three mistakes high and begin by flying straight and level heading downwind. Reduce the throttle to less than 1/2 and begin adding down-elevator. Just as with the inside loop, the first quarter of the outside loop will establish its radius. As the plane approaches the second quarter of the loop, it will begin to pick up speed, so you may have to throttle back to idle and reduce or increase (depending on your plane) the down-elevator input. At the bottom of the loop, begin to increase the throttle and reduce the down-elevator; that way, the plane will enter the second half of the loop with the same speed and radius as during the entry. Remember to use the rudder for most of the heading corrections and the ailerons to keep the wings level throughout the loop.

The plane will slow down as it ascends through the back side of the loop, so you’ll have to increase throttle to maintain speed. Again, use elevator to control the radius of the loop and keep it the same as for the first half of the loop. As you approach the last quarter of the loop, begin easing off the down-elevator and start reducing the throttle. Exit the maneuver at the same altitude and speed as it had when the plane entered it.

Square inside loop
The square inside loop is a variation of the inside loop; the major difference is that you’ll fly the plane straight and level with neutral elevator for most of the loop. Begin the maneuver by flying straight and level at 1/2 to 3/4 throttle. As you approach the first corner of your imaginary square, begin to pull up on the elevator until you’ve established a vertical up-line. Neutralize the elevator and advance to full throttle. Continue your up-line until you’ve reached your square’s second imaginary corner. Pull up-elevator until the plane is flying inverted, straight and level. Reduce the throttle to about 1/4, and you’ll most likely have to add slight down-elevator to maintain the inverted flight.

After flying for the same distance as you did on the up-line, reduce the throttle to idle, and at the same time pull up-elevator to complete the third corner of the square. Neutralize the elevator when the plane is on the vertical down-line. Maintain this heading until the plane has traveled the same distance as it did on the vertical up-line. This is the hardest part of the maneuver because your plane is speeding straight down toward the ground, but you must maintain your nerve and not pull it out of its dive too soon; otherwise, your square loop will look more like a trapezoidal loop! When the plane has reached the fourth quarter of your imaginary square, begin to apply up-elevator, and at the same time, throttle up to about 1/2. Neutralize the elevator, and establish straight and level flight, flying at the same speed as you were when you entered this maneuver.

Final thoughts
These loops are relatively simple to do, but flying them with precision and consistency takes considerable practice. The time spent perfecting these maneuvers will not be wasted because they are the basic building blocks for more advanced aerobatic maneuvers.