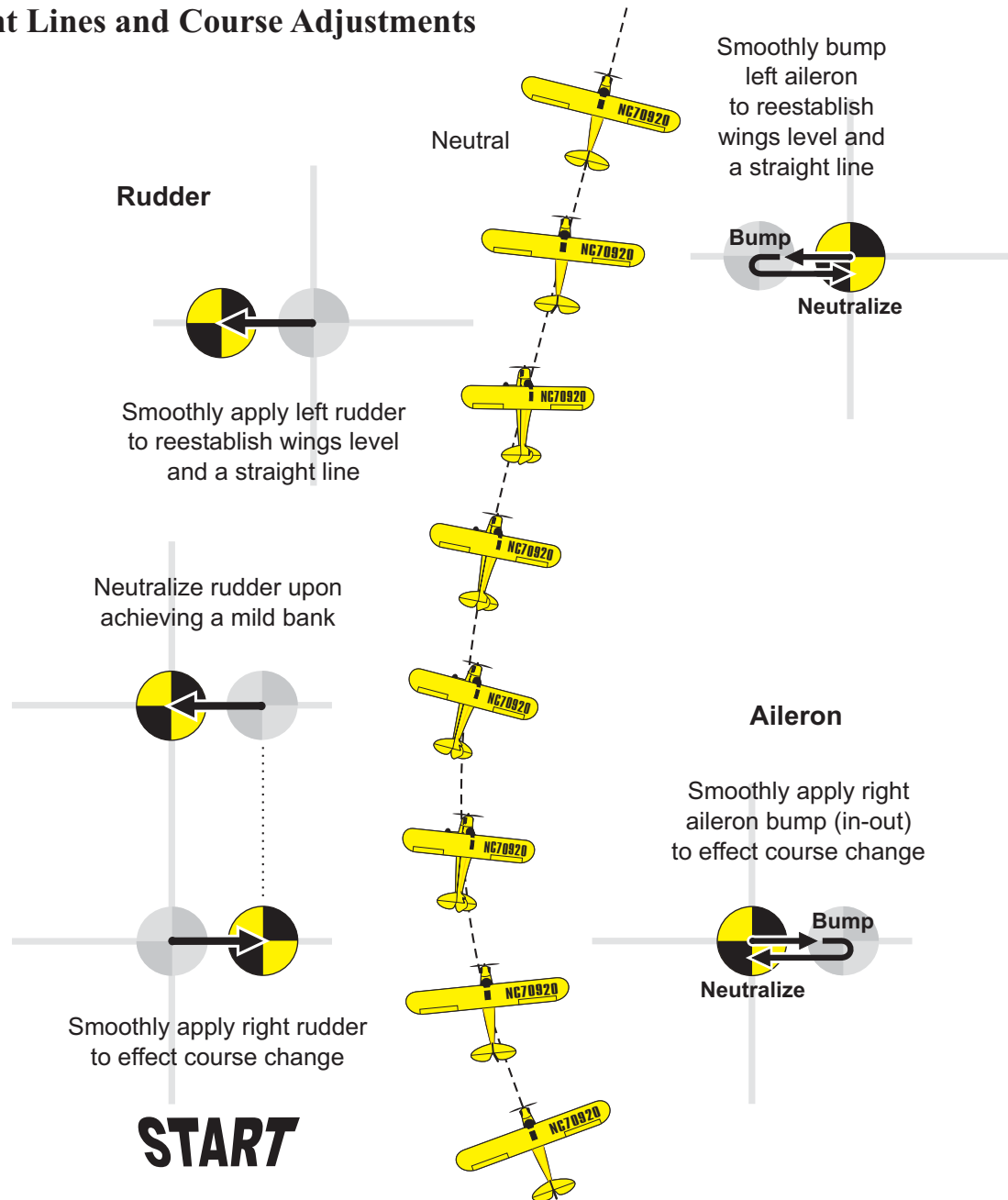


Straight Lines and Course Adjustments

An airplane will fly in a straight line when the wings are level. Small course changes are made with rudder by smoothly inputting a little rudder until it produces a mild bank—usually for a count of “1 or 2”—then neutralizing the rudder and letting the airplane drift. Opposite rudder is applied to level the wings as the plane approaches the preferred flight path. Note: This technique applies to small course changes up to 30 degrees. Obviously, if you need to make a larger course change, a deliberate turn involving rudder and elevator will be required. As long as the input and bank are slight, rudder course adjustments usually don’t require any elevator.

Small course adjustments with aileron involve briefly inputting a smooth bump of aileron to bank the wings slightly. The airplane is allowed to drift, and then the wings are bumped back to level when the plane reaches the desired heading. As long as the aileron bump is not too large or held in, typically little or no elevator is needed while making small course changes.

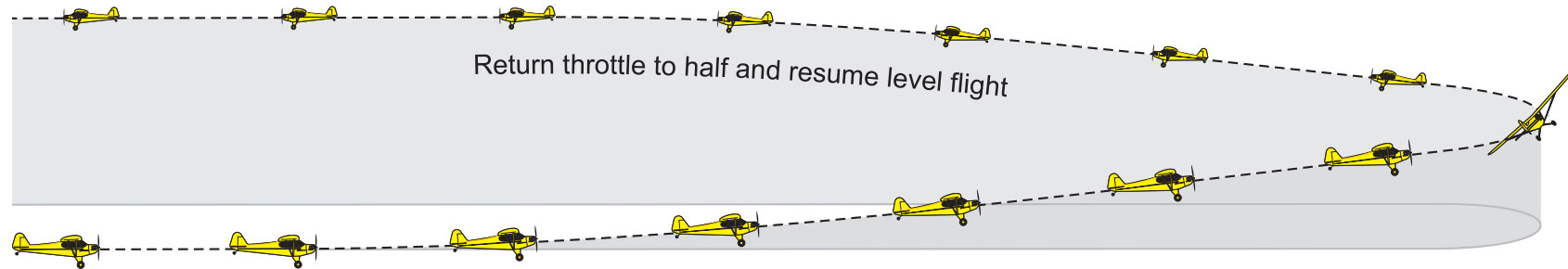
Note: A right bump is not automatically followed by a left bump, or vice-versa, if the airplane is heading where you want it to go. I.e., determining the need for each bump is ultimately based on seeing the need for it.



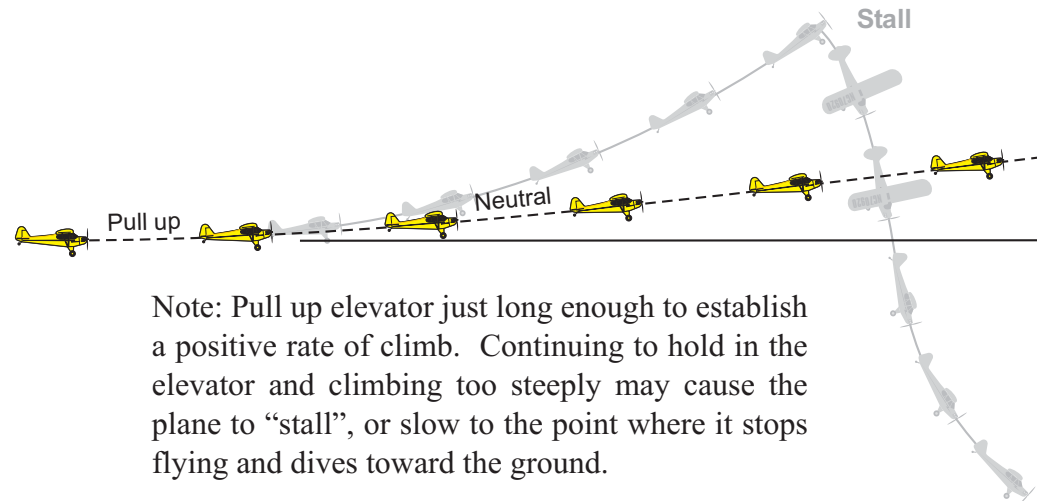
Altitude Control



Level flight at half throttle provides a pilot more time to think and conserves battery, thus extending flight times and saving power for when you really need it. At half throttle, i.e., lower airspeeds, rarely is elevator alone used to climb or descend. If you pull the airplane up into a climb with elevator alone, airspeed will decline and the wing will lose lift. When the elevator is released, gravity will likely take over and cause the airplane to start losing the altitude you just gained. To avoid this, pulling up into a climb should be accompanied by a throttle increase to maintain airspeed. Once the desired altitude is achieved, the throttle is returned to half, and maybe with a little help from the elevator, level flight is resumed. Conversely, the throttle is reduced below half to descend. How far you adjust the throttle depends on how rapidly you want to climb or descend.

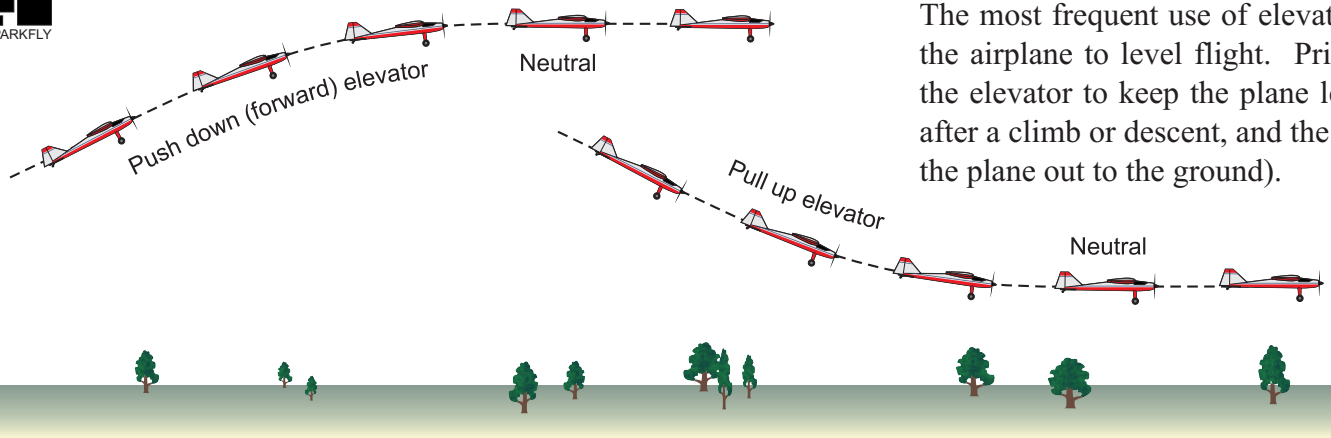


Increase throttle and pull up briefly to establish a slight climb

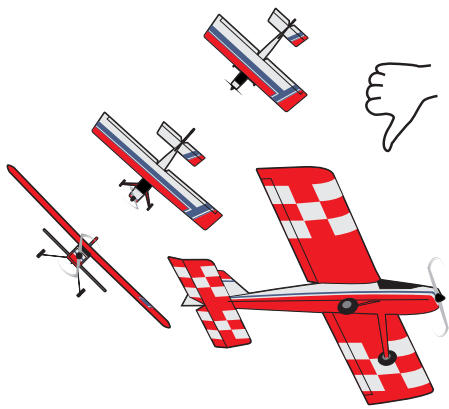


Note: Pull up elevator just long enough to establish a positive rate of climb. Continuing to hold in the elevator and climbing too steeply may cause the plane to “stall”, or slow to the point where it stops flying and dives toward the ground.

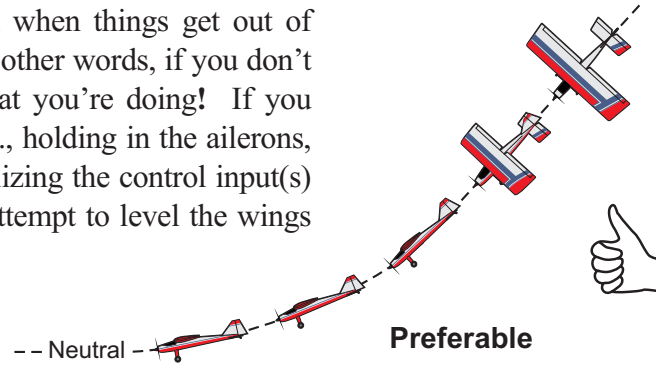
Controlling Level Flight With Elevator and Recovery Technique



The most frequent use of elevator is to keep or return the airplane to level flight. Prime examples of using the elevator to keep the plane level are during a turn, after a climb or descent, and the landing flare (leveling the plane out to the ground).



Recovery: As a rule, your first action when things get out of control is to neutralize the controls. In other words, if you don't like what the plane is doing, stop what you're doing! If you make a mistake resulting in a dive (e.g., holding in the ailerons, climbing too steeply, etc.), after neutralizing the control input(s) that created the problem, you should attempt to level the wings and then pull out straight and level. If low, you may be forced to pull out while leveling the wings, but not before.



As you know, pulling up elevator while the wings are banked will induce a turn. To avoid low altitude turns and the confusion that a sudden change in direction can cause, it is preferable that you level the wings before using the elevator to level out.

