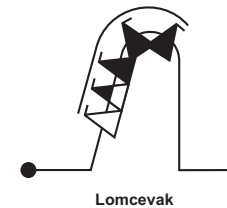


Lomcevak (lum-shu-vác)

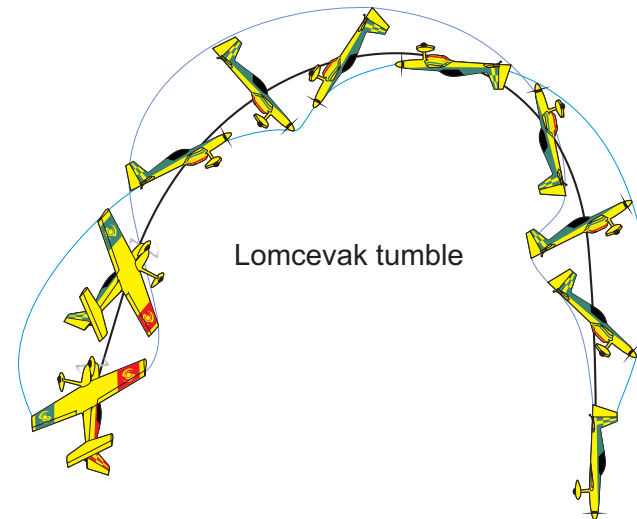
This program will feature one 3D freestyle maneuver for show. For those who have not already observed 3D flying, the simplest explanation of 3D flying is any maneuver in which the airplane is seen to do things that one would not normally expect an airplane to be able to do. 3D maneuvers have names like the *blender*, the *waterfall*, the *harrier*, and the granddaddy of 3D maneuvers that started it all, the *lomcevak* (a Czech word used to describe the unbalanced swaying of a person who has had too much to drink).



The lomcevak variant featured here starts out as inside snap rolls on a near vertical upline, and then by transitioning the elevator to full forward, the airplane is made to tumble forward end over end.

The reason for featuring the lomcevak in an *Aerobatics* program is that it is possible to achieve the end over end lomcevak tumble with conventional aerobatic control surface throws by harnessing gyroscopic precession to effect the tumble (as opposed to huge control throws and extensive programming).

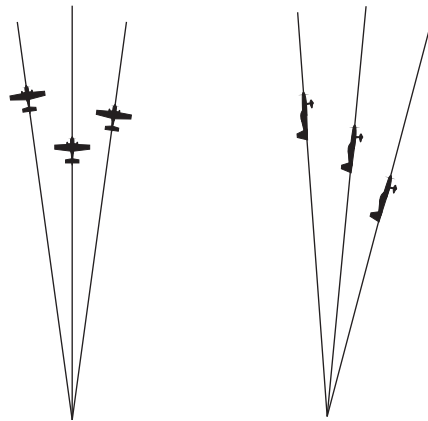
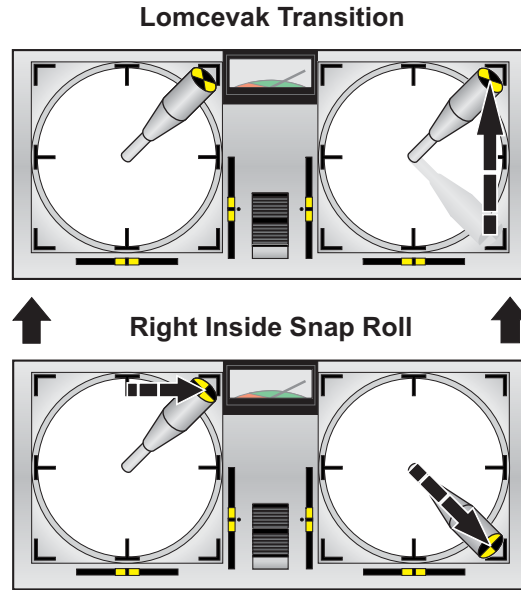
Some thoughts on the lomcevak from one who grew up in Oshkosh, Wisconsin, home of the Experimental Aircraft Association and the world's largest civilian aviation convention and airshow, and a veteran of several hundred airshows: As a show maneuver, the catch 22 of tumbling gyroscopic maneuvers like the lomcevak is that if performed early in one's routine, spectators tend to expect the rest of the maneuvers to be just as sensational. If not, their impression of the flight—and interest—tends to diminish. However, if the pilot continually performs tumbling maneuvers, after about the 2nd or 3rd one, spectators start losing interest watching “another tumble.”



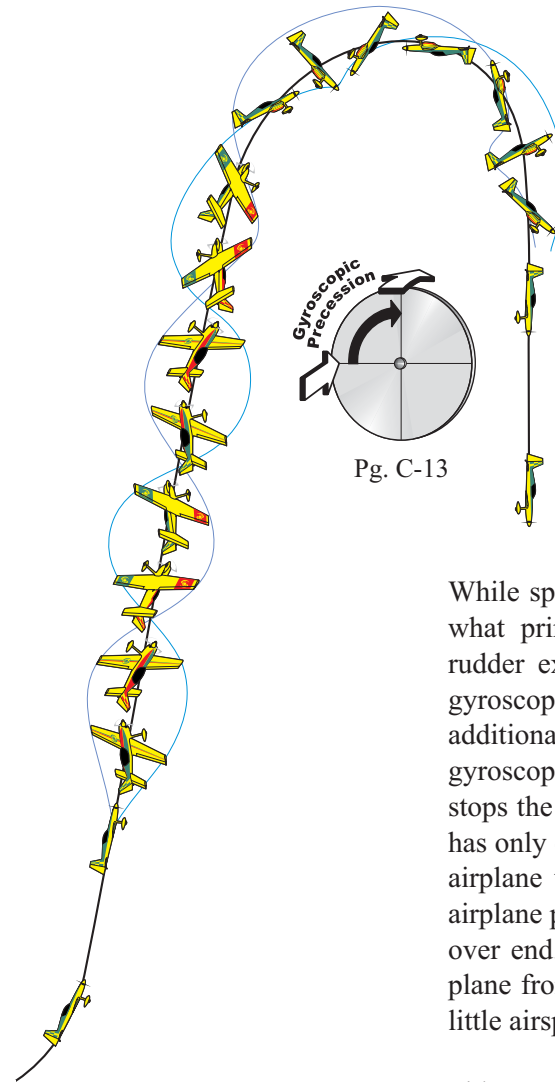
As a show maneuver, the lomcevak has a greater effect on spectators when performed near the end of a flight, or as the flight's finale: After landing, you will likely have people coming up to you reflecting the obvious impression your flight made upon them. Whereas, those who tumble continuously, land only to notice people have been going about their own business!

KPTR: The lomcevak should satisfy the urge to go *wild* from time to time—without needing to radically reconfigure one's entire plane and radio setup.

Lomcevak



Note: For various reason, you may have to experiment with different entry angles to find which effects the most distinctive tumble.



To create the correct maximum gyroscopic forces and the best chance to achieve the lomcevak tumble, maintain maximum rpm's, briefly set the upline slightly short of vertical, and start snapping to the right. After approx. 1 snap, quickly but smoothly transition the elevator to full forward while maintaining right aileron and rudder. Maintain those inputs through the tumble. To recover, simply neutralize the controls, gain some airspeed, and pull out.

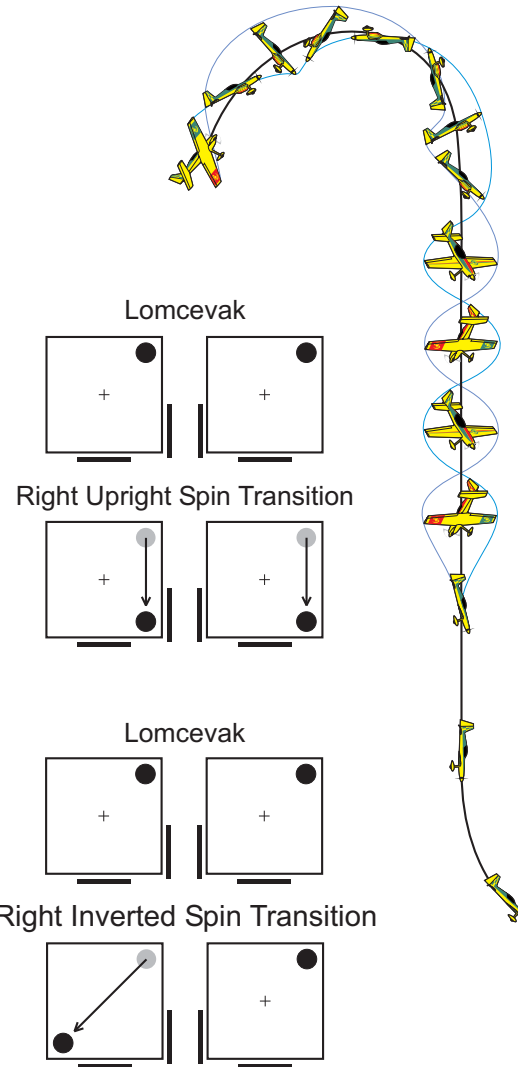
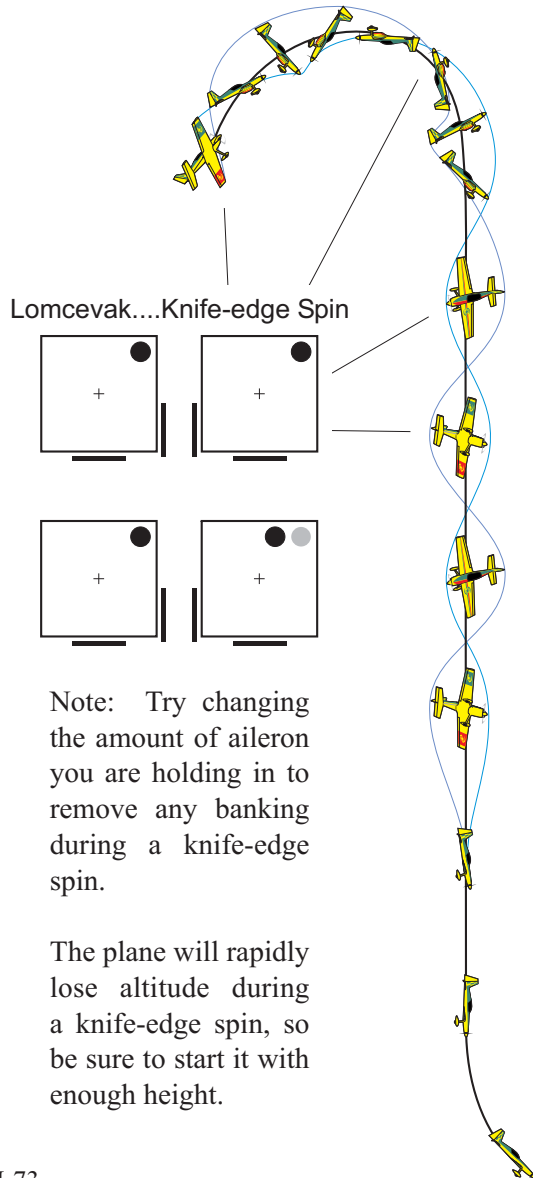
While space does not permit covering all that is involved, what primarily causes the plane to tumble is the right rudder exerts a force on the spinning propeller, creating gyroscopic precession that has the effect of applying additional forward elevator. The forward elevator creates gyroscopic precession that resists the rudder force and stops the plane from yawing. Consequently, all the energy has only one way to go: Triggered by the movement of the airplane transitioning from pitching inside to outside, the airplane pitches forward with such force that it tumbles end over end. (The right aileron is maintained to prevent the plane from torque rolling as it enters the tumble with very little airspeed.)

Side note: A near vertical entry is important for gravity to slow the airplane enough for it to tumble. (The plane will likely snap out of the climb and into a knife-edge spin if the entry is too shallow.)

KPTR: The airplane will rapidly snap out of the climb without tumbling if the entry is not near vertical.

Lomcevak Transition into a Spin

Maintaining the lomcevak inputs after the tumble will put the airplane into a knife-edge spin. Or, one can change the pace by transitioning into a right upright or inverted spin immediately after the tumble.



Tip: As a show maneuver, the lomcevak is typically entered at a lower altitude to increase visibility. Thus, with minimal altitude to work with, start spinning as soon as the nose points down after the tumble.

Side note: Not all planes have all the right ingredients, e.g., big enough props, to be able to tumble end over end with conventional control throws. In such instances, pulling off the power and entering a spin after attempting to tumble is a great way to impress upon people the flexibility of the pilot!

KPTR: Initiate the lomcevak higher than usual in anticipation of entering a spin afterward.