

# Slip Details

Performing a slip—forward or side—involves uncoordinated flight. Normally, that doesn't pose an operational problem and in many cases can be beneficial, which is why we use them. But because uncoordinated flight is involved, some other considerations can come into play:

## UNPORTING FUEL

In a slip, we have an “uphill” wing and a “downhill” wing. Since we are not in coordinated flight, fuel will flow downhill. If ours is an airplane with individually selectable fuel tanks, and we are feeding the engine from the tank that is downhill in the slip, the engine may soon quit because fuel flows away from the fuel port. Many airplanes have a maximum slip limitation (30 to 60 seconds in most cases) designed to keep the engine running if the “downhill” tank is selected. Adhere to all limitations, of course, but also ensure your safety by selecting what will be the “uphill” wing's fuel tank before entering an extended slip.

## AIRSPEED CONTROL

Airspeed control is critical in a slip. Almost by definition, slips are flown at the low end of the airspeed spectrum, as a technique to be flown on final approach (especially with an obstacle). In a steep slip, there is a differential in the angle of attack on one wing versus the other. If the angle of attack becomes critical, it will begin to stall and the lift created by the other wing will cause a very rapid “snap” roll.

Airspeed and angle of attack awareness are key to flying slips. Unfortunately, pitot tubes, static ports and angle of attack sensors are only accurate in coordinated flight. Consequently, airspeed and AoA control in slips is truly a “seat of the pants” sort of maneuver—precision comes with careful practice, hopefully at least initially under the tutelage of an instructor familiar with the slipping characteristics of the airplane flown.

## DIFFERENCES

A close look at the diagrams below, adopted from the FAA's *Airplane Flying Handbook* (AFH), FAA-H-8083-3A, reveals there's not much difference between a forward or side slip, except the diagram's orientation. The difference, according to the AFH, is whether the airplane continues flying in the same direction after the slip is applied. “In a sideslip, the airplane's longitudinal axis remains parallel to the original flightpath, but the airplane no longer flies straight ahead.... A ‘forward slip’ is one in which the airplane's direction of motion continues the same as before the slip was begun.”

