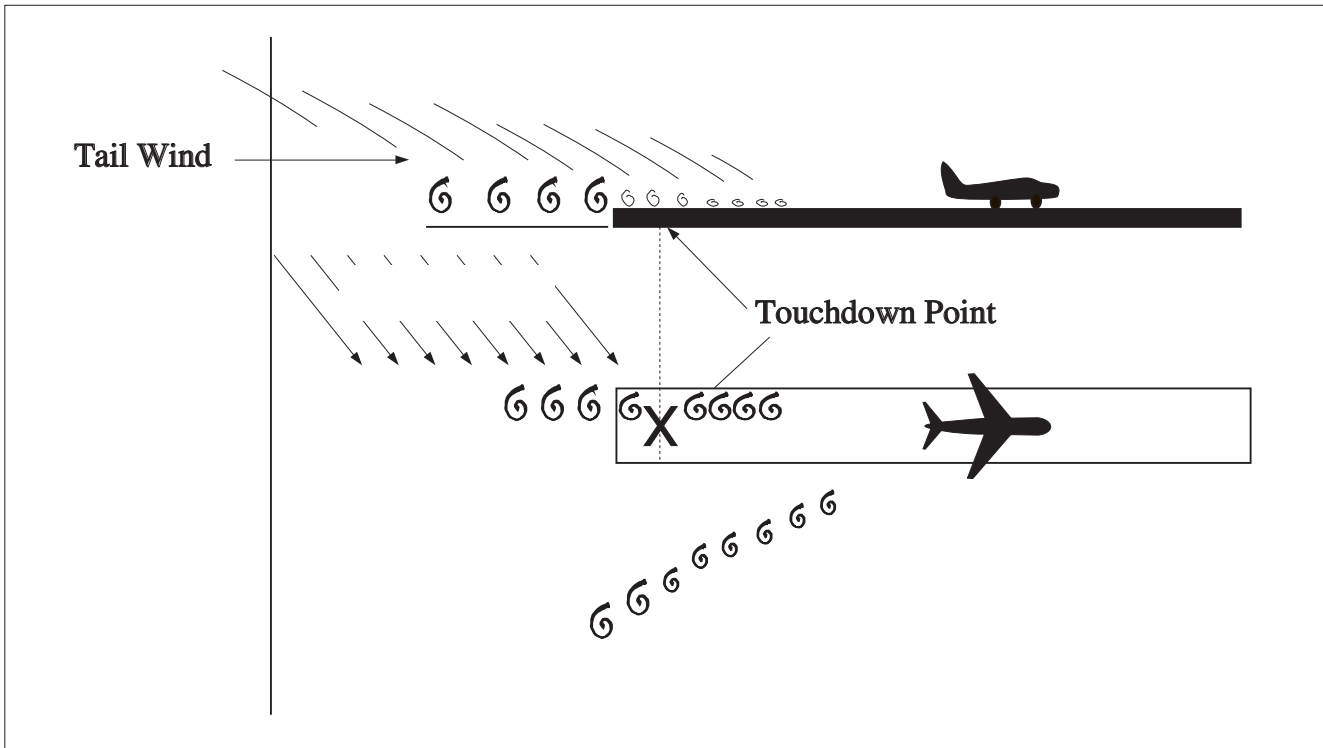


5. Pilots should be alert at all times for possible wake vortex encounters when conducting approach and landing operations. The pilot is ultimately responsible for maintaining an appropriate interval, and should consider all available information in positioning the aircraft in the terminal area, to avoid the wake turbulence created by a preceding aircraft. Test data shows that vortices can rise with the air mass in which they are embedded. The effects of wind shear can cause vortex flow field “tilting.” In addition, ambient thermal lifting and orographic effects (rising terrain or tree lines) can cause a vortex flow field to rise and possibly bounce.

b. A crosswind will decrease the lateral movement

of the upwind vortex and increase the movement of the downwind vortex. Thus, a light wind with a cross-runway component of 1 to 5 knots could result in the upwind vortex remaining in the touchdown zone for a period of time and hasten the drift of the downwind vortex toward another runway. (See FIG 7-4-6.) Similarly, a tailwind condition can move the vortices of the preceding aircraft forward into the touchdown zone. **THE LIGHT QUARTERING TAILWIND REQUIRES MAXIMUM CAUTION.** Pilots should be alert to large aircraft upwind from their approach and takeoff flight paths. (See FIG 7-4-7.)

FIG 7-4-7
Vortex Movement in Ground Effect – Tailwind



7-4-5. Operations Problem Areas

a. A wake turbulence encounter can range from negligible to catastrophic. The impact of the encounter depends on the weight, wingspan, size of the generating aircraft, distance from the generating aircraft, and point of vortex encounter. The probability of induced roll increases when the encountering aircraft’s heading is generally aligned with the flight path of the generating aircraft.

b. **AVOID THE AREA BELOW AND BEHIND THE WAKE GENERATING AIRCRAFT, ESPECIALLY AT LOW ALTITUDE WHERE EVEN A MOMENTARY WAKE ENCOUNTER COULD BE CATASTROPHIC.**

NOTE-
A common scenario for a wake encounter is in terminal airspace after accepting clearance for a visual approach behind landing traffic. Pilots must be cognizant of their position relative to the traffic and use all means of vertical