

VII.A. Normal and Crosswind Takeoff and Climb

About: A normal takeoff is one in which the airplane is headed into the wind. A crosswind takeoff is one in which the airplane is headed at an angle to the wind.

TSW: Develop positive and precise control of airplane attitude and yaw so that only minimal pitch adjustments are required shortly after liftoff to attain the best rate of climb.

Procedure:

1. Complete run up and pre-takeoff checklist
2. Receive takeoff clearance or make radio call, check for traffic
3. Taxi out onto the runway using the rudder pedals to steer.
4. Line up on the runway and come to a complete stop.
5. Smoothly advance the power to full, using R rudder to counteract the left turning tendency's
6. Ensure both heels are on floor (not on breaks)
7. Monitor engine instruments (Oil pressure)
8. Call out airspeed alive
9. Rotate at V_r and climb away at V_y

Crosswind specific

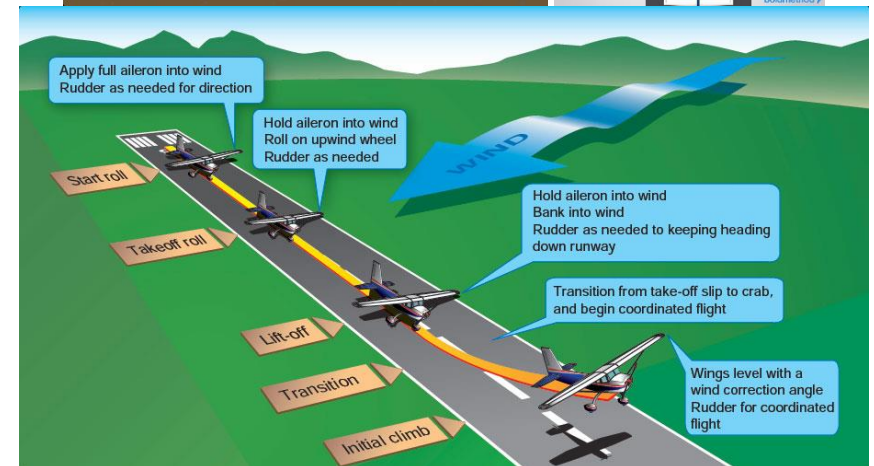
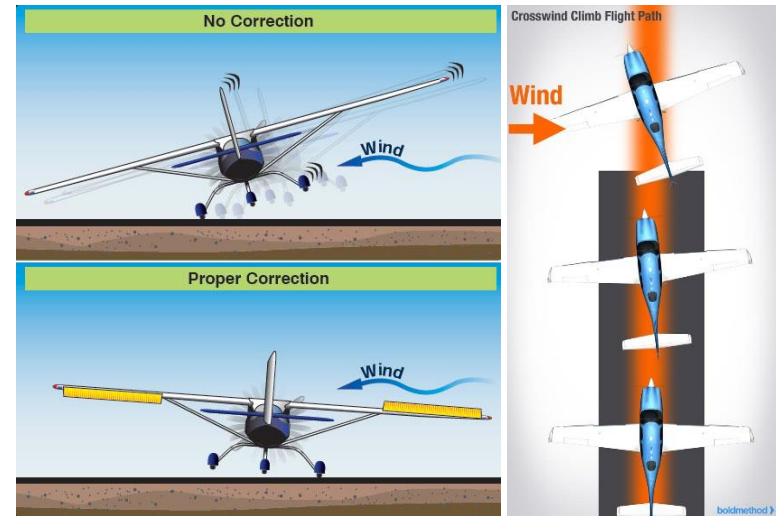
10. Hold ailerons full (bank) into the wind until liftoff. Transition to crab into the wind
11. Wings level with a wind correction angle. Maintain rudder for coordination.

Discussion Points:

1. High Density altitude reduces engine performance: Longer grd roll.
2. It is not recommended to take off immediately behind other aircraft, especially large aircraft: Wake turbulence
3. Ensure proper trim
4. While taxiing onto the runway, select ground reference points aligned with runway to aid in directional control on climb out.
5. Have the student take note of what the runway looks like while on the ground. This will be the same view once they are back on the ground.

Evaluations/ Standards:

12. Student is able to walk through a normal or crosswind takeoff on the ground and should be able to confidently demonstrate a takeoff and climb with or without a crosswind.



Common errors:

- Improper runway incursion avoidance procedures
- Improper use of controls during a normal or crosswind takeoff
- Taking hand off throttle
- Improper climb attitude, power setting, and airspeed (V_Y)
- Improper use of checklist