

Thursday, April 30, 2026

Normal Takeoff

Purpose and Objective

A normal takeoff is used to transition from a hover to forward flight. Understanding the aerodynamics and technique behind the normal takeoff is important as it is the foundation for other flight maneuvers.

Maneuver

1. In a hover, apply a slight forward pressure on the cyclic. The helicopter will begin to move in the direction of takeoff.
 2. As the helicopter starts to move forward, keep the forward cyclic pressure until transverse flow vibrations are felt.
 3. Now apply further forward cyclic movement to push through the vibrations, and apply right pedal to maintain heading.
 4. Keep the cyclic position to build forward airspeed. At an indicated airspeed of 40 KTS, raise collective to 5 min takeoff power. Let the nose come up slightly and adjust for 53 KTS or best rate of climb. Trim with pedals as required.
-

Common Errors

- Too much forward cyclic. A common
 - Not maintaining a straight ground track.
 - Not maintaining the helicopter in trim.
 - Not attaining 53 KTS or best rate of climb.
-

Performance Standards

Private Pilot for Rotorcraft Category Helicopter Rating ACS, Area of Operation V, Task A

Highlights

- Clear the area, taxi into the takeoff position, and align the helicopter on the runway centerline or with takeoff path.
- After clearing all obstacles, transition to normal climb attitude, airspeed, ± 10 KTS, and power setting.

