

Saturday, May 9, 2026

Straight-In Autorotation

Purpose and Objective

A straight-in autorotation is an essential maneuver in every helicopter pilots toolkit. The maneuver allows a pilot to safely and controlled take a helicopter, experiencing significant loss of engine power, down to the ground.

Maneuver

1. Setup with 70 KTS and 550 feet AGL. Conduct a pre-landing check, and brief the autorotation and who has the appropriate controls.
 1. Example: *“We will be doing a straight-in autorotation. I will have all three controls, including the throttle, throughout the entry glide and flare.”*
 2. Do not enter the autorotation without these entry requirements met. If the setup is not good, initiate a go-around.
2. Reposition your left hand into an “underhand grip” position on the throttle.
3. Once the landing site aligns with your reference mark on the windscreen, call out: *“Eyes outside. Entering Autorotation in 3... 2... 1...”*
4. *Smoothly, but deliberately, lower the collective full down, apply right pedal, and aft cyclic to maintain pitch attitude.*
5. Roll the throttle off into the idle position and raise the collective about 1-2” as appropriate (pitch-pull).
6. Begin scan:
 1. Eyes outside, appropriate nose attitude.
 2. RPMs, in normal operating range.
 3. Airspeed, between 60-70 KTS.
7. At 200 feet AGL, conduct a “200 foot check”. If we do not pass the check, initiate a go-around.
 1. Rotor RPMs stable between 97% and 104%. (Low RPM horn is off)
 2. Airspeed is between 60-70 KTS.
 3. Over centerline.



8. Between 40-100 feet AGL begin cyclic flare.
 1. Level the nose attitude.
 2. "Baby"-flare.
 3. Check RPMs, if high do a slight pitch-pull.
 4. Flare.
9. At around 8-10 feet AGL, the engine RPMs should be married with the rotor RPMs and power recovery completed.
10. Raise collective while simultaneously applying forward cyclic to level the helicopter, and apply left pedal to prevent yawing.
11. Keeping efficiency and vibrations, walk the helicopter down to a hover.

Common Errors

- Too much focus inside.
- Chasing RPMs.

Performance Standards

Private Pilot for Rotorcraft Category Helicopter Rating ACS, Area of Operation VI, Task B.

Highlights

- Establish power-off glide with the helicopter trimmed and autorotation airspeed ± 10 KTS.
- Maintain RPMs in normal operating range.
- Initiate proper power recovery.
- Terminate autorotation to a stable hover within 200 feet of designated point.

