

Vertically Speaking

How Low Can You Go?

If you ask a fixed wing pilot about visibility requirements, minimum safe altitudes, and other topics, he or she is likely to rattle off a well-rehearsed set of numbers. But you're flying a helicopter. Do the same numbers apply? Or are the rules different for aircraft in the rotorcraft category?

To quote a favorite phrase of regulators, engineers, and lawyers: It depends.

Minimum Safe Altitudes

Let's start with a quick review of the rules. Title 14 Code of Federal Regulations (14 CFR) part 91.119, Minimum Safe Altitudes, outlines the basics.

- Paragraph (a) requires that you fly at an altitude from which you could successfully land in the event of a power failure without causing an undue hazard to persons or property on the surface.
- Paragraph (b) covers congested areas and says you must maintain at least 1,000 feet above the highest obstacle within 2,000 feet of the aircraft.
- Paragraph (c) covers other than congested areas and requires a 500-foot clearance from the surface, or in the case of open water or sparsely populated areas, a 500-foot clearance (in any direction) from any person, vessel, vehicle, or structure.

But next comes paragraph (d), which removes the restrictions listed in paragraphs (b) and (c) for rotorcraft. So is the helicopter pilot home free? Since it does not relieve helicopter pilots from the provisions of paragraph (a), the minimum safe altitude requirement with respect to possible loss of power does apply. As is the case for fixed wing aircraft, the regulation leaves the exact altitude to the pilot's discretion. Bear in mind, though, that flying at a very low altitude over a congested area is likely to result in noise complaints. And, should the unthinkable happen with power loss that results in injury or damage to persons and/or property on the ground, paragraph (a) will be the least of your worries.

VFR Weather Minimums

How about minimums for weather? For this answer, look in 14 CFR 91.155, Basic VFR weather minimums; and 14 CFR 91.157, Special VFR weather minimums.

For basic VFR, 14 CFR 91.155 (b) (1) removes the restriction of one mile visibility from the weather minimums for Class G airspace. It simply states a helicopter may be operated "clear of clouds if operated at a speed that allows the pilot adequate opportunity to see any air traffic or obstruction in time to avoid a collision."

With respect to special VFR operations, 14 CFR 91.157 (b) (3) and (4) remove helicopters from many of the requirements of a special VFR clearance. Specifically, section (3) relieves helicopters from the one statute mile visibility requirement; section (4) relieves helicopter operators from the instrument rating and equipment requirements; and paragraph (c) relieves rotorcraft from the take off and landing minimums.

A final area of difference to explore on this topic arises from 14 CFR 97.3. Rotorcraft pilots should be aware that the copter procedures definition includes some interesting information. Specifically, it states that for other than "copter-only" approaches, the required visibility minimum for Category I approaches may be reduced to one-half of the published visibility minimum for Category A aircraft but not less than one-quarter mile prevailing visibility or, if reported, 1,200 feet runway visual range (RVR).

It's important to know the numbers, but even more important to apply them in a responsible way. Though the nature of rotorcraft operations prompts the rules that give helicopter pilots a bit more leeway to operate at lower altitudes, the higher duty – always – is to operate in a safe manner.

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