



UAS (Drone) Regulations

Make **money** piloting from the ground

TIRED OF CLIMBING INTO A CRAMPED COCKPIT AND CONTENDING with cumulonimbus and demanding passengers? Why not instead don a pair of fuzzy slippers, settle into a recliner and become a remote pilot in command (R-PIC)?

On June 28, 2016, the FAA officially published “Operation and Certification of Small Unmanned Aircraft Systems; Final Rule,” which creates FAR Part 107 and amends numerous existing FARs. The new and amended FARs became effective on Aug. 29, 2016. The new rules govern UASs under 55 lb. employed in commercial applications. (The Academy of Model Aeronautics has protected the rights of the hobbyists to police themselves.)

Get the Rating

A current FAA-licensed pilot can become an R-PIC quickly (at least by government standards). First, complete an online training course at <http://www.faasafety.gov> and then fill out FAA Form 8710-13. You can do those things without getting up from your recliner.

However, after that you will have to leave the house to take your photo ID, completed Form 8710-13 and the online course completion certificate to an FSDO, CFI, Airman Certification Representative (ACR) or Designated Pilot Examiner (DPE). Presumably only an FSDO will process your paperwork for free, but you will need to make an appointment. An FSDO, DPE or ACR can issue a temporary R-PIC certificate.

Aspiring UAS pilots without FAA credentials must take a longer aeronautical knowledge test and be vetted by the Transportation Security Administration (TSA) but otherwise will follow the same process as described above for current airplane pilots seeking R-PIC credentials.

Fly

Here is a summary of UAS operating limitations:

- ▶ Maximum groundspeed of 100 mph (87 kt.).
- ▶ Maximum altitude of 400 ft. above ground level (AGL) or, if higher than 400 ft. AGL, remain within 400 ft. of a structure (bridge and tower inspections).
- ▶ Minimum weather visibility of 3 mi.
- ▶ Daylight.
- ▶ A small UAS can fly during civil twilight (except for Alaska, 30 min. before official sunrise and 30 min. after official sunset, local time) with appropriate anti-collision lighting.
- ▶ Operations in Class B, C, D and E airspace are allowed with the required ATC permission.
- ▶ Operations in Class G airspace are allowed without ATC permission.
- ▶ No operations from a moving aircraft.
- ▶ No operations from a moving vehicle unless the operation is over a sparsely populated area.
- ▶ A small UAS must yield the right of way to other aircraft.
- ▶ No operations over non-participants.
- ▶ Cloud clearance: 500 ft. below, and 2,000 ft. horizontally. (No distance to memorize for above the clouds — your drone is not supposed to be there.)

▶ Visual line-of-sight (VLOS) only; the UAS must be operated within VLOS unless a waiver is granted to the operator.

Visual Line-of-Sight (VLOS)

If you are a commercial R-PIC, and you can't keep the UAS in sight, you need an observer. However, no observer is required if the R-PIC can keep the UAS, and anyone on the ground underneath, in sight. So, those of you who want to captain a drone for hire from your recliner should read this section of the new rules carefully:

Part 107.33 Visual observer.

If a visual observer is used during the aircraft operation, all of the following requirements must be met:

(a) The remote pilot in command, the person manipulating the flight controls of the small unmanned aircraft system, and the visual observer must maintain effective communication with each other at all times.

(b) The remote pilot in command must ensure that the visual observer is able to see the unmanned aircraft in the manner specified in Part 107.31.

(c) The remote pilot in command, the person manipulating the flight controls of the small unmanned aircraft system, and the visual observer must coordinate to do the following:

- (1) Scan the airspace where the small unmanned aircraft is operating for any potential collision hazard; and*
- (2) Maintain awareness of the position of the small unmanned aircraft through direct visual observation.*

Careful readers just realized several key elements of Part 107:

- ▶ As with manned aircraft, “pilot in command” does not mean “pilot flying.”
- ▶ Neither the remote pilot in command nor the pilot flying need to “see” the drone if a visual observer is properly used.

So, yes, Captain: Enjoy your coffee in your recliner, but make sure that the pilot flying and the visual observer are doing a good job. You are responsible.

Waivers

The FAA intends to publish “standard special provisions” for Part 107 waivers, including, but not limited to, the VLOS requirement. The FAA has already stated that “first-person view cameras cannot satisfy the ‘see-and-avoid’ requirement but can be used as long as the requirement is satisfied in other ways.” The FAA has stated that these new FARs, and any waivers granted, will be viewed on a “performance-based” requirement.

Where do we go from here? Although some pilots fear that drones will steal all the pilot jobs, the real growth areas in the use of small UASs will be applications that cannot be effectively accomplished with manned aircraft. Small UASs have the potential to be as transformative to the aviation industry as personal computers were to the business world. If so, real aviation knowledge will be in short supply. Remote pilot in command, your recliner is ready. **BCA**