

PRIVATE PILOT GROUND SCHOOL

MODULE 1-12 — AIRPORT SIGNS, MARKINGS, AND LIGHTS

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FACTS TO REMEMBER

KNOW THESE COLD

- Red signs with white letters are mandatory instruction signs — the runway holding position sign is the one that keeps you alive.

Source: AIM 2-3-8

- Black signs with yellow letters tell you where you ARE (location); yellow signs with black letters and arrows tell you where things GO (direction/destination).

Source: AIM 2-3-9, 2-3-10

- Runway distance-remaining signs count down thousands of feet of runway left.

Source: AIM 2-3-13

- The runway holding position marking is four yellow lines: two solid, two dashed. Solid side = hold here; dashed side = you are ON the runway, cross and clear.

Source: AIM 2-3-5

- At a towered airport you cross a runway holding position marking only with an explicit clearance for THAT runway; at a nontowered airport, only after looking both ways down the runway and final.

Source: AIM 2-3-5; AC 91-73

- Runway numbers are the runway's magnetic heading rounded to the nearest 10 degrees with the zero dropped — runway 31 points about 310 magnetic.

Source: AIM 2-3-3

- A displaced threshold (arrows leading to a solid bar) may be used for taxi and takeoff, but landings touch down beyond the bar.

Source: AIM 2-3-3

- Chevrons mark blast pads and stopways: no taxi, no takeoff, no landing — not pavement for use.

Source: AIM 2-3-3

- Taxiways carry a continuous yellow centerline; an enhanced centerline (dashes flanking it) warns a runway holding position is ahead.

Source: AIM 2-3-4

- The airport rotating beacon flashes white-green for a lighted civilian land airport; military is two whites and a green.

Source: AIM 2-1-9

- Runway edge lights are white (turning amber in the final 2,000 ft or half the runway on instrument runways); threshold lights show green to arrivals, and the far end shows red.

Source: AIM 2-1-4

- Taxiway edges are blue; taxiway centerlines, where lighted, are green.

Source: AIM 2-1-10

- VASI: red over white, you're all right (on glidepath); white over white too high, red over red too low.

Source: AIM 2-1-2

- PAPI: four lights in a row — two white two red on path; more whites high, more reds low.

Source: AIM 2-1-2

- Pilot-controlled lighting: key the mic on the CTAF — 7 clicks highest intensity, 5 medium, 3 low; the lights run on a 15-minute timer.

Source: AIM 2-1-8

- Before taxi: airport diagram out, expected route drawn or spoken, hot spots (charted circled areas of past confusion) identified.

Source: AC 91-73; Chart Supplement

- NOTAMs are checked before taxi for closed runways and taxiways, unlighted obstacles, and construction — the diagram shows what was, NOTAMs show what is.

Source: AIM 5-1-3; AC 91-73

- The windsock points AWAY from the wind source and gives a rough speed by its angle; a tetrahedron points INTO the wind — both are read before every takeoff and landing.

Source: AIM 4-3-4

- Aircraft lights on the ground: beacon on whenever the engine runs; nav lights sunset to sunrise; strobes off when they would blind others taxiing nearby, on crossing any runway.

Source: 14 CFR 91.209; AIM 4-3-23

- Night and low-visibility taxi discipline: slower, progressive taxi instructions if unsure, follow the greens, and stop the airplane the moment position is uncertain.

Source: AC 91-73; AIM 4-3-18

- Heads-down tasks (programming, checklists, texting the FBO) are done stopped, clear of movement areas — a moving airplane gets undivided eyes.

Source: AC 91-73

- Runway incursion defense in one sentence: know where you are, know where you're cleared to, read back anything involving a runway, and never cross a red sign or red lights without resolving the doubt.

Source: AC 91-73; AIM 2-3-5

- Expectation bias on taxi routes — hearing yesterday's route in today's clearance — is defeated by writing the clearance down and following the written version, not the remembered one.

Source: AC 91-73

GOING DEEPER

- ILS critical area and other boundary markings exist and are honored when instructed to hold clear (ladder marking; sign with "ILS").

Source: AIM 2-3-5

- A rotating beacon running during daylight hours in Class B/C/D/E surface airspace often means weather is below basic VFR minimums — a caution, not an official signal.

Source: AIM 2-1-9

- REIL — synchronized flashing lights at the threshold — exist to make the runway end findable against city lights.

Source: AIM 2-1-3

- Ramp security is part of ground operations: aircraft locked and tied, gates closed behind you, and unfamiliar persons around aircraft challenged or reported (AOPA Airport Watch, 866-GA-SECURE).

Source: TSA/AOPA Airport Watch; AIM ch. 2

THE REGULATIONS BEHIND THIS MODULE

14 CFR 91.209 – Aircraft lights

From sunset to sunrise no person may operate an aircraft unless it has lighted position lights. At any hour, no person may operate an aircraft equipped with an anticollision light system unless the anticollision lights are lighted, except when the pilot in command determines that, because of operating conditions, turning them off is in the interest of safety.

Where it goes deeper: This module, in the before-taxi Leg.