

PRIVATE PILOT GROUND SCHOOL

MODULE 1-11 — COMMUNICATIONS AND LIGHT GUN SIGNALS

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FACTS TO REMEMBER

KNOW THESE COLD

- Frequencies come from the sectional chart and the Chart Supplement: tower, ground, CTAF, ATIS/AWOS, and approach are all published — guessing is never necessary.

Source: Chart Supplement; AIM 4-1-4

- CTAF is the common traffic advisory frequency for a given airport — the tower frequency at part-time towered fields (Salinas: 119.525 for both), UNICOM or MULTICOM elsewhere.

Source: AIM 4-1-9

- The standard self-announce call has four parts: who you're calling (airport traffic), who you are, where you are, what you intend — ending with the airport name again.

Source: AIM 4-1-9

- Position reports at a nontowered field: inbound with intentions before entering the pattern, then each leg — downwind, base, final — and clear of the runway.

Source: AIM 4-1-9; AC 90-66C

- A first call to any controller carries: who they are, who you are, where you are (with ATIS letter when arriving), and what you want.

Source: AIM 4-2-3

- Numbers and letters are spoken in ICAO phonetics and single digits ("one one nine point five two five"), because misheard call signs and headings are how incursions start.

Source: AIM 4-2-7, 4-2-8

- Standard responses: WILCO (will comply), UNABLE, SAY AGAIN, STAND BY — and STAND BY is not an answer to a hold-short instruction.

Source: AIM 4-2-1; Pilot/Controller Glossary

- Runway assignments, hold-short instructions, and "line up and wait" must be read back with the runway number and call sign — full readback, every time.

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

- "Line up and wait" clears you ONTO the runway but not to take off; if no takeoff clearance follows promptly, ask.

Source: AIM 4-3 (LUAW); Pilot/Controller Glossary

- An ATC clearance is not a command to violate anything: the PIC refuses with UNABLE when a clearance would compromise safety, and an amended clearance is requested when needed.

Source: AIM 4-4-1; 14 CFR 91.3

- A late runway change is an invitation to rushed configuration and wrong-runway lineup: the defense is slowing down, rebriefing the new runway, and UNABLE if not ready.

Source: AC 91-73; AFH ch. 2

- Light gun, steady green: on the ground — cleared for takeoff; in flight — cleared to land.

Source: 14 CFR 91.125; AIM 4-3-13

- Light gun, flashing green: on the ground — cleared to taxi; in flight — return for landing (steady green will

follow at the proper time).

Source: 14 CFR 91.125; AIM 4-3-13

- Light gun, steady red: on the ground — stop; in flight — give way to other aircraft and continue circling.

Source: 14 CFR 91.125; AIM 4-3-13

- Light gun, flashing red: on the ground — taxi clear of the runway in use; in flight — airport unsafe, do not land.

Source: 14 CFR 91.125; AIM 4-3-13

- Light gun, flashing white: return to your starting point on the airport (surface only).

Source: 14 CFR 91.125; AIM 4-3-13

- Light gun, alternating red and green: exercise extreme caution — surface or airborne.

Source: 14 CFR 91.125; AIM 4-3-13

- Acknowledging light signals: in daylight, rock the wings (on the ground, move ailerons/rudder); at night, flash the landing or navigation lights.

Source: AIM 4-3-13

- The transponder squawks 1200 for VFR unless assigned otherwise, with altitude reporting (Mode C/ALT) on whenever airborne.

Source: AIM 4-1-20; 14 CFR 91.215(c)

- Emergency squawk codes: 7500 hijacking, 7600 lost communications, 7700 emergency.

Source: AIM 6-4-2, 6-2-4

- VFR flight following (radar traffic advisories) is requested from approach/center, given workload permitting, and never transfers see-and-avoid to the controller.

Source: AIM 4-1-15, 4-1-16

- Radar services add safety alerts and vectors on request — help that costs one transmission, which is why the module's habit is flight following on every leg that leaves the pattern.

Source: AIM 4-1-16

- MAYDAY (repeated three times) declares distress; PAN-PAN declares urgency; either gets priority handling, and a controller can also be told plainly "declaring an emergency."

Source: AIM 6-3-1, 6-3-2

- Declaring an emergency costs nothing by rule — the only paperwork is a report IF the Administrator requests one; hesitation to declare is the actual hazard.

Source: 14 CFR 91.3(c); AIM 6-1-1

- Runway status lights (at equipped airports) are automatic red in-pavement lights: red means STOP regardless of any clearance received — clearance and lights disagree, hold and ask.

Source: AIM 2-1-6

- Blocked or garbled radio calls are normal: never act on a clearance you are not sure was yours; confirm with call sign, because two similar call signs on frequency is a standard accident setup.

Source: AIM 4-2-3; AC 91-73

GOING DEEPER

- "Any traffic in the area please advise" is nonstandard, adds congestion, and the AIM says not to use it.

Source: AIM 4-1-9

- When changing codes, avoid dialing through 7500/7600/7700 — momentary emergency codes light up scopes.

Source: AIM 4-1-20

THE REGULATIONS BEHIND THIS MODULE

14 CFR 91.125 – ATC light signals

Steady green: cleared for takeoff, cleared to land. Flashing green: cleared to taxi, return for landing. Steady red: stop, give way and continue circling. Flashing red: taxi clear of the runway, airport unsafe. Flashing white: return to starting point. Alternating red and green: exercise extreme caution.

Where it goes deeper: This module, in the light gun Legs.

14 CFR 91.123 – Compliance with ATC clearances and instructions

No pilot in command may deviate from an ATC clearance unless an amended clearance is obtained, an emergency exists, or the deviation answers a TCAS resolution advisory. A pilot uncertain of a clearance must immediately request clarification.

Where it goes deeper: This module, in the readback Leg.

14 CFR 91.3 – Responsibility and authority of the pilot in command

In an in-flight emergency requiring immediate action, the pilot in command may deviate from any rule to the extent required to meet that emergency, and sends a written report only if the Administrator requests one.

Where it goes deeper: This module, in the emergency Leg.