FLIGHTLEVELDREAMS | By Enrique Gonzalez, CFI | Revised August 2026

THE 'P'ILOT - PAVE

PRIVATE PILOT ELIGIBILITY | § 61.103

- At least 17 for an airplane rating; able to read, speak, write, and understand English.
- Receive required training and endorsements; meet § 61.109 experience; pass the knowledge and practical tests.
- A student pilot certificate is required before solo. Medical qualification is generally required to act as PIC, but a third-class medical is not itself an eligibility item for issuance of the private certificate.

AIRPLANE SINGLE-ENGINE EXPERIENCE | § 61.109(a)

- At least 40 hours total: 20 hours flight training and 10 hours solo. The national average is normally higher.
- Training: 3 hours cross-country; 3 hours night including a cross-country over 100 NM total and 10 full-stop takeoffs/landings; 3 hours instrument; 3 hours checkride preparation within the preceding 2 calendar months.
- Solo: 5 hours cross-country; one 150-NM total cross-country with 3 full-stop points and one segment at least 50 NM; 3 full-stop takeoffs/landings at an airport with an operating control tower.

PRIVATE PILOT PRIVILEGES | § 61.113

- No carrying persons/property for compensation or hire and no acting as PIC for compensation or hire, except specific regulatory exceptions.
- Incidental business flight may be allowed when the flight is incidental and passengers/property are not carried for compensation or hire.
- Pilot must pay at least the pro rata share of fuel, oil, airport expenditures, or rental fees. FAA interpretations also require a common purpose.

PIC DOCUMENTS AND AUTHORITY

- § 61.3: appropriate pilot certificate, photo ID, and medical certificate when required.
- § 91.3: PIC is directly responsible and final authority; may deviate as necessary in an in-flight emergency.
- § 91.103: know all available information before flight.

MEDICAL DURATION | § 61.23

- Third-class privileges: under age 40 on exam date - 60 calendar months; age 40 or older - 24 calendar months.
- Second-class privileges: 12 calendar months. First-class privileges: 12 calendar months if under 40; 6 calendar months if 40 or older. Lower-class privileges may continue as allowed by § 61.23.

ENDORSEMENTS | § 61.31

- Complex: retractable gear, flaps, controllable-pitch propeller/approved equivalent.
- High-performance: engine over 200 horsepower. Tailwheel: required proficiency items. Pressurized/high-altitude: service ceiling or maximum operating altitude above 25,000 feet MSL.
- Receive required ground/flight training and one-time logbook endorsement unless an exception applies.

CURRENCY | §§ 61.56, 61.57

- Flight review within preceding 24 calendar months unless an alternative applies.
- Passengers: 3 takeoffs and landings within 90 days in same category/class/type if required. Tailwheel landings to full stop.
- Night passengers: 3 full-stop takeoffs/landings between 1 hour after sunset and 1 hour before sunrise.

BASICMED - CURRENT RULE

- §§ 61.23(c)(3), 61.113(i): aircraft authorized for no more than 7 occupants and no more than 12,500 lb maximum takeoff weight; carry no more than 6 passengers.
- U.S. only; VFR or IFR; at/below 18,000 feet MSL; no more than 250 KIAS; not for compensation or hire; excludes transport-category rotorcraft.
- Valid U.S. driver's license; course every 24 calendar months; exam/checklist every 48 months; meet medical-history and special-issuance requirements.

THE 'P'ILOT - PERSONAL READINESS AND AEROMEDICAL

IMSAFE, PASSENGERS, AND PHYSIOLOGY

IMSAFE PERSONAL CHECK

- Illness: symptoms or recovery may reduce performance.
- Medication: verify effects and FAA acceptability; consider the condition being treated.
- Stress: recognize workload, family, financial, and schedule pressure.
- Alcohol: § 91.17 minimum 8 hours, below 0.04, not under influence; personal minimum should be more conservative.
- Fatigue: acute/chronic sleep loss, sleep apnea, circadian disruption.
- Emotion/Eating: anger, grief, anxiety, dehydration, and poor nutrition.

SAFETY PASSENGER BRIEF

- Seat belts/shoulder harnesses; seat position and controls.
- Air vents, heat, comfort, and airsickness.
- Fire extinguisher and emergency equipment.
- Exits, doors/windows, evacuation, and propeller safety.
- Traffic scanning and sterile-cockpit expectations.
- Your questions; explain positive transfer of controls and emergency duties.

TYPE	CAUSE / EFFECT
Hypoxic	Insufficient oxygen available to the lungs, commonly altitude.
Hypemic	Blood cannot carry enough oxygen; carbon monoxide or anemia.
Stagnant	Inadequate circulation prevents oxygen delivery.
Histotoxic	Cells cannot use oxygen because of alcohol, drugs, or toxins.

HYPOXIA

- Symptoms: euphoria, headache, impaired judgment, slow reaction, tunnel vision, cyanosis, drowsiness, poor coordination.
- Use supplemental oxygen, descend promptly, improve ventilation when contamination is possible, and land as appropriate.
- Individual symptoms vary. Learn yours under controlled training; pulse oximetry is supplemental information, not permission to continue.

HYPERVENTILATION

- Excessive breathing lowers carbon dioxide. Symptoms can resemble hypoxia: dizziness, tingling, visual changes, lightheadedness, spasms.
- Slow breathing and speak aloud. If cause is uncertain at altitude, use oxygen and descend.
- Do not use the old paper-bag method in flight.

CARBON MONOXIDE

- Colorless, odorless exhaust gas causing hypemic hypoxia. Headache, dizziness, drowsiness, and nausea are warnings.
- Shut off cabin heat, open fresh-air vents/windows, use oxygen, land as soon as practical, and seek medical attention.
- Use a reliable detector and inspect exhaust/heater systems.

EAR, SINUS, AND SCUBA

- Avoid flying congested. Equalize gently; do not force descent through severe pain.
- After scuba: FAA guidance recommends at least 12 hours after a dive not requiring controlled ascent and at least 24 hours after one requiring controlled ascent; consider 24 hours before higher-altitude flight.
- Decompression sickness: joint pain, weakness, numbness, dizziness, breathing difficulty. Use oxygen, descend, land, and seek emergency care.

VISION AND NIGHT

- Dark adaptation takes about 30 minutes. Use dim red/amber light and off-center viewing; protect eyes from bright light.
- Night blind spot, autokinesis, false horizon, black-hole approach, and empty-field myopia can mislead the pilot.

SPATIAL DISORIENTATION

- The leans, Coriolis, graveyard spiral, inversion, elevator, and somatogravic illusions arise when body sensations conflict with reality.
- Trust the instruments, use a disciplined cross-check, keep head movement smooth, and avoid instrument conditions without qualification.

THE 'A'IRCRAFT - AIRWORTHINESS

DOCUMENTS, INSPECTIONS, EQUIPMENT, AND INOPERATIVE ITEMS

ARROW
- Airworthiness certificate displayed at the cabin/cockpit entrance.
- Registration certificate current and valid; U.S. registrations generally expire 7 years after issuance unless an earlier terminating event occurs (§ 47.40).
- Radio station/pilot permit generally required for international operations, not domestic U.S. operations.
- Operating limitations: AFM/POH, supplements, placards, markings (§ 91.9).
- Weight and balance: current empty-weight/equipment data and loading information.

AV1ATES INSPECTIONS
- Annual: every 12 calendar months (§ 91.409). 100-hour when carrying persons for hire or giving instruction for hire in an aircraft the instructor provides; up to 10 hours only to reach inspection, counted toward next interval.
- VOR check within 30 days for IFR (§ 91.171). Altimeter/static within 24 calendar months for IFR in controlled airspace (§ 91.411).
- Transponder within 24 calendar months (§ 91.413). ELT inspection every 12 calendar months; battery after more than 1 cumulative hour or 50% useful life (§ 91.207).
- Airworthiness Directives are mandatory; verify one-time and recurring compliance (§ 39.7).

DAY VFR | § 91.205(b)
- Airspeed, altimeter, magnetic direction indicator.
- Tachometer each engine; oil pressure; oil temperature for air-cooled engine; coolant temperature for liquid-cooled engine.
- Manifold pressure for altitude engine; fuel gauge each tank; gear position for retractable gear.
- Anti-collision lights as applicable; ELT when required; safety belts and shoulder harnesses as required.

NIGHT VFR - ADD | § 91.205(c)
- Position lights; approved anti-collision system.
- Adequate source of electrical energy.
- Spare fuses when accessible in flight: one complete set or three of each kind.
- Electric landing light when operated for hire.
- Night definitions differ: logging night, lighting, and passenger currency use different time periods.

INOPERATIVE EQUIPMENT | § 91.213(d)
- Check MEL when applicable; type-certification basis/KOEL; equipment list; kinds-of-operation list; § 91.205 and other operating rules; ADs; and aircraft limitations.
- If not required, remove with appropriate maintenance record and weight/balance change, or deactivate and placard 'Inoperative.' A qualified person must determine deactivation creates no hazard. PIC makes the final safety determination.
- Do not treat a placard alone as compliance. Maintenance action may be required.

SPECIAL FLIGHT PERMIT
- FAA may issue when an aircraft does not currently meet airworthiness requirements but can be flown safely for an authorized purpose, such as repair or evacuation from danger.
- Contact the FSDO; comply with operating limitations.

ADs, STCs, AND FORM 337
- ADs are mandatory. STCs approve major design changes. FAA Form 337 records qualifying major repairs/alterations.
- Review maintenance records for description, approval basis, return-to-service signature, and continuing inspection requirements.

THE 'A'IRCRAFT - SYSTEMS AND LIMITATIONS

KNOW THE POH/AFM - DO NOT MEMORIZE ANOTHER AIRPLANE'S NUMBERS

AREA	WHAT THE STUDENT SHOULD KNOW
V-speeds	VS0, VS1, VR if published, VX, VY, best glide, VFE, VNO, VNE, and VA at actual weight; color arcs and other limitations.
Engine	Model, horsepower, cooling, induction, ignition, oil type/capacity/limits, rpm and temperature/pressure limitations.
Propeller	Fixed or constant speed; operating range; governor/system; overspeed and failure response.
Fuel	Total/usable/unusable, grade/color, tanks, drains, vents, pumps, selector, indications, leaning, contamination and imbalance.
Landing gear	Fixed/retractable, extension/indication, emergency extension, brakes, tire limits, steering and shimmy dampener.
Flaps/controls	Type, settings, operating speeds, trim, control locks, abnormal procedures.
Electrical	System/battery voltage, alternator rating, buses, breakers/fuses, indications, standby power, load-shedding plan.
Avionics	Database currency, CDI source, flight-plan entry, autopilot limits, failure flags, reversionary mode and backups.

ENGINE AND IGNITION
- Magnetos are engine-driven and independent of the electrical system. Treat every propeller as live; a broken P-lead can leave a magneto hot.
- Carburetor ice can form over a broad temperature/humidity range. Know symptoms and POH corrective action for fixed-pitch versus constant-speed propellers.
- Know detonation, preignition, fouled plugs, vapor lock, fuel contamination and oil-pressure/temperature abnormal procedures.

PITOT-STATIC / FLIGHT INSTRUMENTS
- Airspeed uses pitot and static pressure; altimeter and VSI use static pressure. Explain blocked pitot, blocked drain, blocked static, and alternate-static indications.
- Traditional gyros may be vacuum/electric. Glass systems use sensors and display computers. Know failure flags, standby instruments, reversion, and electrical dependencies.

PRESSURE AND DENSITY ALTITUDE
- Pressure altitude: altitude with 29.92 set; approximation = field elevation + (29.92 - setting) × 1,000.
- Density altitude: pressure altitude corrected for nonstandard temperature. High/hot/humid and low pressure reduce performance.
- Use approved POH charts; rules of thumb are cross-checks only.

OXYGEN | § 91.211
- Required crew uses oxygen for the part over 30 minutes above 12,500 through 14,000 feet MSL; continuously above 14,000.
- Above 15,000, each occupant must be provided oxygen. Use lower personal thresholds at night or when health/performance warrants.

PRESSURIZATION
- Cabin altitude is controlled by regulating compressed inflow and outflow. Know differential pressure, cabin-altitude warning, and emergency descent.
- Rapid/explosive decompression creates hypoxia, noise, fog and debris. Don oxygen immediately, establish communications, descend, and follow checklist.

ATC LIGHT SIGNALS | § 91.125
- Steady green: land / take off. Flashing green: return for landing / taxi.
- Steady red: give way and circle / stop. Flashing red: airport unsafe / taxi clear of runway.
- Flashing white: not applicable / return to starting point. Alternating red-green: extreme caution.

THE 'A'IRCRAFT - BALANCE, RIGHT-OF-WAY, AND NAVIGATION

CENTER OF GRAVITY, OPERATING RULES, AND COMPASS KNOWLEDGE

EFFECT	FORWARD CG	AFT CG
Stability/control	More stable; higher control forces; stronger nose-down tendency.	Less stable; lighter forces; poorer stall/spin recovery.
Takeoff/landing	Longer roll, harder rotation/flare; more elevator required.	Earlier/easier rotation; over-rotation or tail-strike risk.
Performance	More trim drag; reduced climb/cruise; potentially higher stall speed.	Less trim drag; potentially lower stall speed, but unsafe controllability near/behind limit.

MINIMUM SAFE ALTITUDES | § 91.119
• Anywhere: allow emergency landing without undue hazard if power fails.
• Congested: at least 1,000 feet above highest obstacle within 2,000 feet horizontally.
• Elsewhere: 500 feet above surface; over open water/sparsely populated areas, no closer than 500 feet to any person, vessel, vehicle, or structure.
• Except when necessary for takeoff or landing. Helicopter exceptions differ.

RIGHT-OF-WAY | § 91.113
• Distress has priority. Weather permitting, maintain vigilance and see-and-avoid.
• Converging same category: aircraft to the right has right-of-way. Head-on: both alter right. Overtaking: pass well clear to the right.
• Balloons generally over gliders, airships, powered parachutes/weight-shift, airplanes/rotorcraft; towing/refueling receives priority as stated in rule.
• Landing aircraft and lower aircraft generally have priority, but may not cut in or overtake.

COLLISION AVOIDANCE
• Scan in short sectors, clear blind spots, use lights appropriately, minimize heads-down time, and request flight following when useful.
• ATC traffic advisories are workload-permitting and do not remove PIC see-and-avoid responsibility in VMC.
• Clear every turn, climb, descent, runway crossing, and practice maneuver area.

COURSE AND HEADING
• True course + wind correction = true heading. Apply variation = magnetic heading. Apply deviation = compass heading.
• Magnetic course is true course corrected for variation and controls § 91.159 VFR cruising altitude.
• Pilotage uses visual checkpoints; dead reckoning uses time, speed, distance, and direction; electronic navigation must be cross-checked.

COMPASS ERRORS
• Variation: true vs magnetic north. Deviation: aircraft magnetic interference shown on compass card. Also dip and oscillation.
• Northern Hemisphere: UNOS - undershoot north, overshoot south. ANDS on east/west headings - accelerate indicates north, decelerate indicates south.

AIRSPEEDS AND ALTITUDES
• IAS; CAS corrected for instrument/position error; TAS corrected for pressure/temperature; groundspeed corrected for wind; Mach is TAS/local speed of sound.
• Indicated, true MSL, absolute AGL, pressure, and density altitude. In colder-than-standard air, true altitude is lower than indicated.

THE 'A'IRCRAFT - AERODYNAMICS AND OPERATIONS

STALLS, SPINS, DRAG, LOAD FACTOR, WAKE, AND RUNWAY SAFETY

FORCES / STALLS
• Lift is perpendicular to relative wind; drag is parallel and opposite; thrust forward; weight toward Earth's center.
• A stall occurs at critical angle of attack regardless of airspeed, attitude, or power. Load factor increases stall speed.
• Critical risks: base-to-final overshoot, steep/skidding turn, departure climb, go-around, distraction and gusts.

SPINS - PARE AND REAP
• Spin: aggravated stall with autorotation; one wing is more deeply stalled.
• Cessna/common PARE: Power idle, Ailerons neutral, Rudder full opposite rotation, Elevator forward to break the stall.
• Piper Archer REAP (apply simultaneously): Rudder full opposite the direction of spin, Elevator briskly forward, Ailerons neutral, Power idle.
• The exact aircraft POH/AFM procedure always controls; neutralize the rudder after rotation stops and recover without exceeding limitations.
• Prevention: coordinated flight, proper airspeed, low-altitude bank discipline, early go-around.

DRAG AND GROUND EFFECT
• Induced drag rises with angle of attack and falls with speed; parasite drag rises with speed and includes form, skin-friction, and interference drag.
• Ground effect reduces induced drag. Premature liftoff can lead to settling/stall; landing may float if excess speed is carried.

LOAD FACTOR / MANEUVERING SPEED
• Load factor is total aerodynamic load divided by weight. It rises in turns and abrupt maneuvers; stall speed rises with square root of load factor.
• VA decreases as weight decreases. It does not protect from multiple/combined full inputs, negative loading, or severe gusts.

LEFT-TURNING TENDENCIES
• Torque, P-factor, spiraling slipstream, and gyroscopic precession vary with power, airspeed, angle of attack, and design.
• Use coordinated rudder; keep directional control during high-power, low-speed operations and go-arounds.

WAKE TURBULENCE
• Strongest behind heavy, clean, slow aircraft. Vortices sink and drift.
• Land at/above path and beyond touchdown; depart before liftoff point and above path; adjust upwind and delay when uncertain.

STABILIZED APPROACH
• Correct path, configuration, power, airspeed, descent rate and checklist by the defined gate. If unstable, go around.
• Aiming point is where the flight path would meet the surface without flare.

LAHSO / RUNWAY INCURSION
• LAHSO is voluntary; accept only with adequate available landing distance, conditions and proficiency. Say 'unable' when needed; go around for safety.
• Use airport diagram, hold-short readbacks, sterile cockpit and runway verification to prevent incursions.

VFR CRUISING ALTITUDE | § 91.159
• Above 3,000 feet AGL: magnetic course 0°-179° uses odd thousands +500; 180°-359° uses even thousands +500, except holding or as authorized.

HYDROPLANING
• Dynamic: tire rides on water film. Reverted-rubber: locked tire heats water to steam. Viscous: thin film on a smooth surface. Avoid excess speed and hard braking; follow POH technique.

THE EN'V'IRONMENT - PREFLIGHT PLANNING

§ 91.103 - NWKRAFT

ITEM	WHAT TO REVIEW
NOTAMs	Airport/runway/taxiway, NAVAID/GNSS, TFR/FDC, special-use activity, lighting, services and hazards. Use current FAA categories/system.
Weather	Current and forecast weather, trends, hazards, route, destination, alternates, escape options and personal minimums.
Known delays	ATC flow restrictions, ground stops, expected reroutes and airport congestion.
Runways	Lengths, widths, slopes, surface/condition, lighting, obstacles, displaced thresholds and declared distances.
Alternatives	Where and when to divert; fuel/time trigger; weather/terrain suitability and services.
Fuel	VFR airplane: destination plus 30 minutes day or 45 minutes night at normal cruise (§ 91.151). Plan a larger personal reserve.
Takeoff/landing	POH/AFM performance for actual pressure altitude, temperature, weight, wind, surface/slope and obstacles; add safety margin.

NOTAMS - CURRENT APPROACH

- Review the complete briefing rather than relying on older MDFGPS memory categories. Decode location, effective time, altitude, coordinates and operational effect.
- TFRs can change rapidly. Check before departure and again before entering affected airspace.
- A chart may not show whether special-use airspace is active; contact controlling agency/Flight Service as appropriate.

WEATHER-BRIEFING STANDARD

- Review all available pertinent information for the exact route and time. Understand source, age, issue time and valid time.
- Use multiple products to build the picture; a single app layer is not a complete briefing.
- Flight Service: 1-800-WX-BRIEF. AviationWeather.gov provides official weather products. Preserve briefing evidence when practical.

PERFORMANCE RISK

- High density altitude, high weight, tailwind, upslope, soft/contaminated runway and obstacles increase takeoff risk.
- Wet/icy surface, tailwind, excess approach speed and delayed touchdown increase landing risk.
- Regulatory fuel reserve is an emergency floor, not a planning target.

EXTERNAL CONDITIONS

- Night, terrain, water, remote areas, unfamiliar airports, survival gear, smoke, birds/wildlife and runway contamination change the acceptable margin.
- Set go/no-go and diversion triggers before departure.

THE EN'V'IRONMENT - WEATHER

CURRENT PRODUCTS, THEORY, AND HAZARDS

OBSERVATIONS

- METAR/SPECI: station, time, wind/gusts, visibility, weather, sky, temperature/dew point, altimeter, remarks.
- ATIS: recorded terminal weather/runway/approach/notices, identified by phonetic code. ASOS/AWOS: automated observations with varying capability.
- PIREP: actual pilot-observed weather. Report unexpected ceilings/visibility, icing, turbulence, wind shear, volcanic ash and hazards.

FORECASTS / ADVISORIES

- TAF: terminal forecast. Winds/temperatures aloft: selected altitudes.
- GFA: continuously updated graphical forecasts; replaced legacy textual Area Forecast and several old charts.
- G-AIRMET: widespread moderate hazards/IFR/mountain obscuration. SIGMET: significant non-convective hazards. Convective SIGMET: convective hazards significant to all aircraft.
- Use radar, satellite, surface analysis, prog charts, outlooks and advisories with issue/valid times.

STABLE VS. UNSTABLE

- Stable: smooth, stratiform clouds, steady precipitation, haze and reduced visibility.
- Unstable: turbulence, cumuliform clouds, showers, better visibility outside precipitation and possible thunderstorms.
- Fronts: cold, warm, stationary and occluded boundaries can concentrate wind, clouds, precipitation and hazards.

FOG

- Radiation: nighttime surface cooling. Advection: moist air over colder surface. Upslope: moist air forced uphill.
- Steam: cold air over warmer water. Precipitation-induced: evaporation moistens/cools air. Fog forms when temperature/dew point converge and condensation occurs.

THUNDERSTORMS

- Need moisture, instability and lift. Stages: cumulus, mature and dissipating.
- Hazards: severe turbulence, hail, lightning, icing, heavy rain, tornadoes, gust fronts, wind shear and microbursts.
- Avoid cells widely; at least 20 NM when conditions warrant. Never fly under an anvil or rely on cockpit radar as real-time tactical clearance.

ICING

- Structural ice needs visible moisture and a surface at/below freezing. Rime is rough/opaque; clear is smooth/heavy; mixed combines features.
- Frost is unacceptable. Ice raises drag/stall speed and reduces lift, propeller efficiency and control.
- Induction icing includes carburetor ice/inlet blockage. Follow POH and exit icing immediately in a non-approved aircraft.

WIND SHEAR / MICROBURST

- Rapid headwind-downdraft-tailwind change can exceed aircraft performance near the ground. Avoid or delay; follow approved escape guidance if encountered.

TURBULENCE / MOUNTAIN WAVE

- Mechanical, convective, frontal and mountain-wave turbulence can cause loss of control or structural loads. Slow per POH, avoid abrupt inputs and accept altitude variation as needed.

THE EN'V'IRONMENT - AIRSPACE AND VFR MINIMUMS

14 CFR §§ 91.126-91.131, 91.155, 91.157

AIRSPACE	VFR WEATHER MINIMUMS / ENTRY BASICS
Class A	IFR only. 18,000 feet MSL through FL600 in the contiguous U.S./Alaska and associated areas as defined; ATC clearance and IFR qualification/equipment.
Class B	3 SM, clear of clouds. Explicit ATC clearance required. Pilot/certificate and student-endorsement rules apply. Mode C transponder and ADS-B Out generally required in/above applicable veil/airspace.
Class C	3 SM; 500 below, 1,000 above, 2,000 horizontal. Establish two-way radio before entry. Transponder/altitude reporting and ADS-B Out where required.
Class D	3 SM; 500 below, 1,000 above, 2,000 horizontal. Establish two-way radio before entry. Tower hours affect airspace status.
Class E <10,000 MSL	3 SM; 500 below, 1,000 above, 2,000 horizontal. Begins at surface, 700 AGL, 1,200 AGL or another charted altitude.
Class E ≥10,000 MSL	5 SM; 1,000 below, 1,000 above, 1 SM horizontal.
Class G ≤1,200 AGL	Day: 1 SM, clear of clouds. Night: generally 3 SM and 500/1,000/2,000, with limited pattern exception under § 91.155(b)(2).
Class G >1,200 AGL, <10,000 MSL	Day: 1 SM and 500/1,000/2,000. Night: 3 SM and 500/1,000/2,000.
Class G >1,200 AGL, ≥10,000 MSL	5 SM; 1,000 below, 1,000 above, 1 SM horizontal.

SPECIAL VFR | § 91.157
• ATC clearance; clear of clouds; at least 1 SM flight visibility for airplanes.
• Generally sunrise-to-sunset unless pilot is instrument qualified/current and aircraft IFR-equipped.
• Not available at certain listed airports. ATC workload/traffic may prevent clearance.

VFR / MVFR / IFR CATEGORIES
• These are weather-reporting/flight-planning categories, not legal VFR minima: VFR >3,000 ceiling and >5 SM; MVFR 1,000-3,000 and/or 3-5 SM; IFR 500 to <1,000 and/or 1 to <3 SM; LIFR <500 and/or <1 SM.
• The most restrictive ceiling or visibility controls the displayed category.

SPEED | § 91.117
• Generally no more than 250 KIAS below 10,000 feet MSL. No more than 200 KIAS at/below 2,500 AGL within 4 NM of Class C/D primary airport and in airspace underlying Class B/VFR corridors unless exception applies.

COMMUNICATIONS
• Two-way radio is established when ATC responds using the aircraft call sign. 'Aircraft calling, standby' does not establish communication. Class B still requires explicit clearance.

THE EN'V'IRONMENT - SPECIAL USE AND OTHER AIRSPACE

CHARTS, NOTAMS, AND OPERATIONAL RESTRICTIONS

TYPE	PURPOSE / VFR OPERATION
Prohibited	Flight prohibited for security or national-welfare reasons unless authorized by controlling agency.
Restricted	Unusual, often invisible hazards such as artillery or missiles. Penetration requires authorization when active; check times/controlling agency.
Warning	Hazardous activity over domestic/international waters; warning only, not a prohibition. Use caution and activity information.
MOA	Separates certain military training from IFR traffic. VFR may enter but should exercise extreme caution; obtain activity status and advisories.
Alert	High volume of training or unusual aerial activity. All pilots share collision-avoidance responsibility.
CFA	Activities stop when a spotter/radar detects approaching aircraft; not depicted on aeronautical charts.
NSA	Requested avoidance for national security; may become temporarily prohibited under regulation/NOTAM.

TFR
• Protects disaster relief, public figures, space operations, major events, wildfire operations and other hazards/security needs.
• Dimensions, times, exceptions and controlling agencies vary. Check immediately before flight and monitor changes.

SFRA / FRZ
• Special Flight Rules Areas impose procedures beyond normal airspace rules. Washington DC SFRA/FRZ require specific training, flight plans, communication, transponder codes and authorizations.
• Read the governing rule, chart and NOTAM; do not rely on memory.

TRSA
• Radar-service area surrounding one or more airports. Participation is voluntary for VFR, but pilots are encouraged to participate; underlying Class D/C/B rules still apply.

PARACHUTE / GLIDER / AEROBATIC
• Review chart symbols, Chart Supplement, NOTAMs and common frequencies. Remain vigilant near jump zones, glider sites, aerobatic boxes and training areas.

MILITARY TRAINING ROUTES
• IR routes are IFR; VR routes are VFR. Four digits generally indicate no segment above 1,500 AGL; three digits may include segments above 1,500 AGL. High-speed traffic may be difficult to see.

WILDLIFE / PARK AREAS
• FAA requests at least 2,000 feet AGL over charted wildlife refuges, parks and similar areas when practicable. Some areas have binding restrictions; check charts and notices.

MODE C / ADS-B
• Know §§ 91.215 and 91.225: Class A/B/C, Mode C veil and above Class B/C requirements, plus altitude/airspace exceptions. Equipment failure authorization procedures are time-sensitive.

AIRPORT AIRSPACE
• Class C and D shapes/ceilings vary from standard dimensions. Surface areas may revert when tower closes. Use the chart, Chart Supplement, NOTAMs and ATC/FSS.

THE 'E'XTERNAL PRESSURES - ADM AND EMERGENCIES

MANAGE RISK BEFORE PRESSURE MAKES THE DECISION

ATTITUDE	THOUGHT	ANTIDOTE
Anti-authority	Don't tell me.	Follow the rules; they are usually right.
Impulsivity	Do it quickly.	Not so fast - think first.
Invulnerability	It won't happen to me.	It could happen to me.
Macho	I can do it.	Taking chances is foolish.
Resignation	What's the use?	I am not helpless; I can make a difference.

DECIDE / 5P / SRM
• DECIDE: Detect, Estimate, Choose, Identify, Do, Evaluate.
• 5P: Plan, Plane, Pilot, Passengers, Programming.
• SRM uses passengers, ATC, Flight Service, avionics, automation, checklists, time, fuel and outside help.
• Set personal minimums and diversion triggers before pressure builds.

LOST PROCEDURES
• Climb when safe, communicate, confess the problem, comply with assistance, and conserve fuel.
• Cross-check GNSS, VORs, landmarks, terrain, time, heading and fuel.
• Emergency frequency 121.5. Squawk 7500 unlawful interference, 7600 radio failure, 7700 emergency.

ENGINE FAILURE / ABCDE
• Airspeed/best glide; Best landing area; Checklist as time allows; Declare early; Execute landing/secure airplane per POH.
• Maintain control first. Do not spend landing energy troubleshooting. Protect occupants and avoid steep/skidding low-altitude maneuvering.

RADIO PHRASEOLOGY
• Affirmative = yes; negative = no; roger = last transmission received; wilco = received, understood, will comply; unable = cannot safely perform.
• Flight following request: call sign, aircraft type/equipment as needed, position, altitude, destination and request.
• ATC assistance does not transfer PIC authority. Ask for clarification and say unable when necessary.

STERILE COCKPIT / CHECKLISTS
• Avoid nonessential activity during taxi, takeoff, climb, approach, landing and other high-workload phases.
• Checklist verifies configuration in a logical sequence and protects against memory failure. Use flows only when backed by checklist verification.

CFIT AND AUTOMATION
• CFIT is controlled flight into terrain/obstacle caused by lost situational awareness. Use terrain clearance, briefed altitudes, chart/GPS cross-check and go-around/diversion.
• Know automation mode, target and next action. Disconnect when it increases workload or behaves unexpectedly.

NTSB REPORTING | 49 CFR PART 830
• Immediately notify NTSB of an accident and listed serious incidents (§ 830.5); preserve wreckage/records (§ 830.10).
• Written report generally within 10 days after an accident, after 7 days for a missing overdue aircraft, and when requested for an incident (§ 830.15). Verify the current rule.

CATEGORY AND CLASS
• Airman: category airplane/rotorcraft/glider/etc.; airplane class ASEL, AMEL, ASES, AMES.
• Aircraft certification categories such as normal, utility, acrobatic, commuter, transport and restricted describe certification basis, not pilot category/class.

PPL REGULATIONS TO KNOW

PART 61 AND PART 91 - ONE-PAGE QUICK REFERENCE

PART 61	PLAIN-ENGLISH DESCRIPTION
§ 61.3	Pilot certificates, photo ID, and medical documents.
§ 61.23	Medical requirements, duration, and BasicMed route.
§ 61.31	Type ratings and complex, high-performance, pressurized, tailwheel training.
§ 61.53	Do not fly with a disqualifying medical deficiency or medication effect.
§ 61.56	Flight review within preceding 24 calendar months.
§ 61.57	Passenger and instrument recent-experience requirements.
§ 61.60	Report specified motor-vehicle alcohol/drug actions within 60 days.
§ 61.87	Student solo knowledge, training, proficiency, and endorsements.
§ 61.89	Student pilot privileges and limitations.
§ 61.93	Student solo cross-country requirements and endorsements.
§ 61.95	Student operations in Class B airspace and listed airports.
§ 61.103	Private pilot eligibility requirements.
§ 61.105	Private pilot aeronautical knowledge areas.
§ 61.107	Required areas of flight proficiency and training.
§ 61.109	Aeronautical experience; paragraph (a) is airplane single-engine.
§ 61.113	Private privileges, limitations, expense sharing, and BasicMed limits.

PART 91	PLAIN-ENGLISH DESCRIPTION
§ 91.3	PIC responsibility, final authority, and emergency deviation.
§ 91.7	Airworthiness and discontinuing flight for unairworthy conditions.
§ 91.9	AFM/POH limitations, markings, placards, and manual availability.
§ 91.13	No careless or reckless operation.
§ 91.17	Alcohol and drug limitations for crewmembers.
§ 91.103	Required preflight action and information.
§ 91.107	Seat belts, shoulder harnesses, and passenger briefing.
§ 91.113	Right-of-way and see-and-avoid responsibilities.
§ 91.117	Aircraft speed limitations.
§ 91.119	Minimum safe altitudes.
§§ 91.126-.131	Operating rules for Class G, E, D, C, and B.
§ 91.151	VFR fuel requirements for airplanes.
§ 91.155	Basic VFR weather minimums.
§ 91.157	Special VFR minima and ATC clearance.
§ 91.159	VFR cruising altitudes above 3,000 feet AGL.
§ 91.203	Required airworthiness and registration certificates.
§ 91.205	Required instruments and equipment.
§ 91.207	ELT applicability, inspection, battery, and testing.
§ 91.209	Aircraft light requirements.
§ 91.211	Supplemental oxygen requirements.
§ 91.213	Inoperative instruments and equipment.
§ 91.215	Transponder and altitude-reporting requirements.
§ 91.225	ADS-B Out equipment and airspace requirements.
§ 91.409	Annual and 100-hour inspections.

OTHER USEFUL REFERENCES

• Part 61: §§ 61.51 logging time, 61.69 glider towing, 61.101 recreational privileges, 61.117 private SIC limits. Part 91: §§ 91.203-91.225 aircraft documents/equipment and §§ 91.401-91.419 maintenance records/inspections.
• Know where to find and verify the current rule; the description above is a memory aid, not the full legal text.

CHECKRIDE REVIEW AND SOURCES

USE THIS GUIDE TO FIND THE ANSWER - THEN VERIFY THE PRIMARY SOURCE

PRIVATE PILOT AIRPLANE ACS FLOW

AREA OF OPERATION	CORE STUDY TOPICS
I. Preflight preparation	Qualifications, airworthiness, weather, cross-country planning, NAS, performance/limitations, systems, human factors.
II. Preflight procedures	Preflight assessment, cockpit management, engine starting, taxiing, pre-takeoff check.
III. Airport operations	Communications/light signals, traffic patterns, markings/lighting, runway incursion avoidance.
IV. Takeoffs/landings/go-arounds	Normal/crosswind, short-field, soft-field, slips and go-around.
V-VIII. Maneuvers/navigation	Performance/reference maneuvers, slow flight/stalls, basic instruments, pilotage/dead reckoning/diversion/lost.
IX-XII. Emergency/night/postflight	Emergency operations, multiengine if applicable, night operations and postflight procedures.

STRONG ORAL ANSWER

- State the rule or concept in plain language.
- Give the controlling regulation or FAA source.
- Apply it to the scenario, airplane, weather and mission.
- Identify what must be verified in POH/AFM, chart, records or current publication.
- Make a safe decision. 'I would stop and verify that before flight' is better than guessing.

PRIMARY SOURCES

- 14 CFR Parts 1, 43, 61, 67, 91 and 49 CFR Part 830 - eCFR.gov.
- Private Pilot Airplane ACS FAA-S-ACS-6C and ACS Companion Guide.
- AIM current edition; PHAK; Airplane Flying Handbook; Aviation Weather Handbook FAA-H-8083-28B (2026).
- FAA BasicMed page; charts, Chart Supplement and NOTAMs; aircraft AFM/POH, supplements, placards and maintenance records.

WHAT WAS CORRECTED FROM THE 2017 GUIDE

- BasicMed increased to 7 occupants, 6 passengers and 12,500 lb; registration duration updated; old weather products replaced with current GFA-based material; wrong citations such as VFR minima under '91.5' corrected to § 91.155; oxygen, inspections, equipment, airspace, inoperative-equipment and emergency language cleaned up.
- PA-28-specific numbers were not carried into a general PPL guide. Students should use the assigned airplane's current POH/AFM.

FINAL REMINDER

- Regulations, FAA guidance, charts, databases and aircraft limitations change. This guide is a compact study aid, not a substitute for current primary sources, an instructor, medical advice or approved aircraft information.
- FlightLevelDreams | By Enrique Gonzalez, CFI | Independent flight instruction