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PRIVATE PILOT REGULATIONS

Miscellaneous

This regulatory summary is provided by Gold Seal Ground School to assist you as a supplemental study guide by presenting some of the most common aviation regulations in plain language. The summaries herein aim to simplify the complex language often found in the official Code of Federal Regulations (CFR) to enhance your understanding and learning experience.

Please note that this summary is not a replacement for the official CFR. It is essential for all aviators to be familiar with and understand the full legal texts of the regulations, as they govern all aspects of aviation operations and safety. This document should be used in conjunction with your regular study materials and any instructions provided by your instructors.

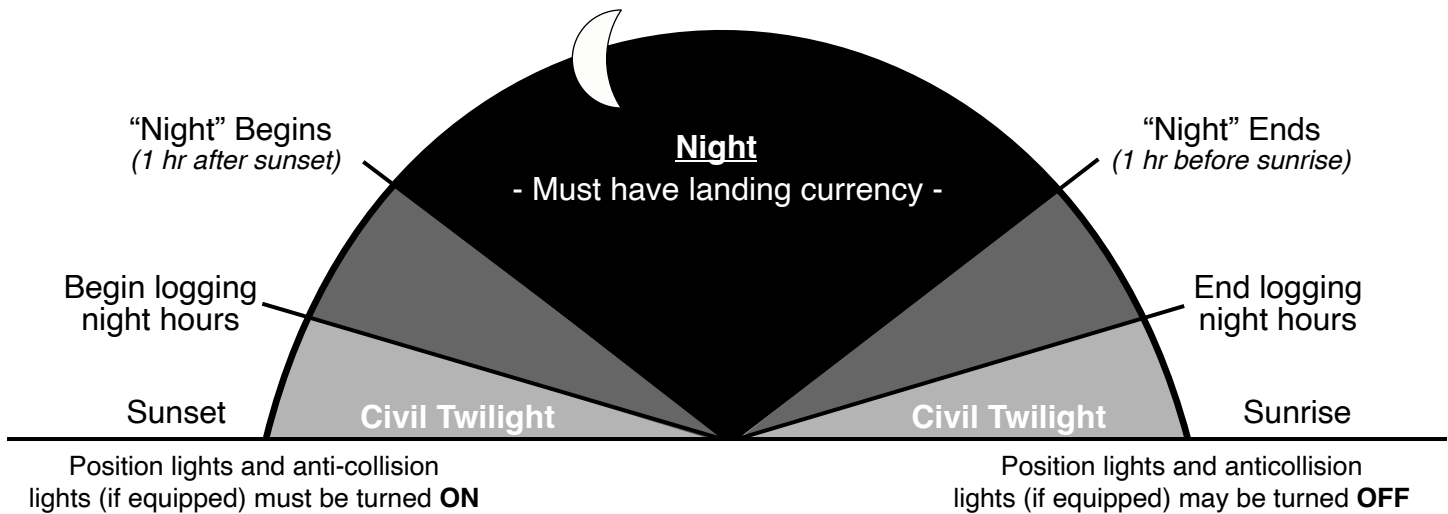
Utilize this guide as a tool to aid your comprehension and retention of regulatory requirements. For any questions or clarifications, always refer back to the official Code of Federal Regulations or consult with your instructors.

14 CFR Part 1 - General Definitions - This section defines key terms used throughout the Federal Aviation Regulations. Understanding these definitions is essential as they clarify the meaning of terms and phrases in the rules.

Abbreviations and Symbols - This section lists the abbreviations and symbols commonly used in aviation regulations and documents. Knowing these can help in understanding aviation-related communications and documentation.

It is important to understand how nuances with definitions can affect operations and other requirements. For example, the definition of “night” time is often misunderstood, since it has several applications, from logging flight time to recent flight experience requirements, to the use of position lights. Below is a definition, and one of the applications.

- **Night (14 CFR 1.1 Definitions)** – The time between the end of evening civil twilight and the beginning of morning civil twilight (as published in the American Air Almanac).
- **Night (For Recency of Experience, 14 CFR 61.57)** – The period from one hour after sunset to one hour before sunrise.



Duration of Airworthiness Certificates (14 CFR 21.181) - This regulation outlines how long an airworthiness certificate for an aircraft remains valid. Standard certificates do not expire as long as the aircraft meets maintenance and airworthiness requirements. Special certificates have specific conditions and durations.

Airworthiness Directives (14 CFR Part 39.3) - Airworthiness Directives (ADs) are legally enforceable rules issued by the FAA to address safety issues found in aircraft, engines, propellers, or appliances. These directives must be complied with to ensure the continued airworthiness of the affected equipment. A/Ds are mandatory and must be complied with. You may operate an aircraft that is not in compliance with an A/D if such operation is allowed by the A/D.

Operation of an Aircraft or Use a Product that Does Not Meet the Requirements of an Airworthiness Directive (14 CFR 39.9) - It is prohibited to operate an aircraft if it fails to meet the requirements set out in any applicable Airworthiness Directive unless there is an official exemption. Compliance is mandatory to ensure safety.

Airworthiness Certificates (14 CFR 21.175 and 91.203) - Airworthiness Certificates remain in effect as long as maintenance and alteration of the aircraft are performed per the regulations. They must be displayed at the cabin or cockpit entrance so that it is legible to passengers or crew.

Dealer's Aircraft Registration Certificate (14 CFR 47.61) - This is another form of aircraft registration. It is only valid for flights within the United States by the manufacturer or a dealer for flight testing or demonstration for sale.

V-Speeds Definitions (14 CFR 1.1)

V_{so} – Stalling speed in the landing configuration

V_x – Best angle of climb

V_y – Best rate of climb

V_{fo} – Maximum flaps operating speed

V_{fe} – Maximum flaps extended speed

V_{lo} – Maximum landing gear operating speed

V_{le} – Maximum landing gear extended speed

V_{no} – Maximum design structural cruising speed

V_{ne} – Never exceed speed

V_a – Design maneuvering speed (*not shown on airspeed indicator*)

Other Definitions (14 CFR 1.1)

Aircraft means a device that is used or intended to be used for flight in the air.

Airframe means the fuselage, booms, nacelles, cowlings, fairings, airfoil surfaces (including rotors but excluding propellers and rotating airfoils of engines), and landing gear of an aircraft and their accessories and controls.

Airplane means an engine-driven fixed-wing aircraft heavier than air, that is supported in flight by the dynamic reaction of the air against its wings.

Airport means an area of land or water that is used or intended to be used for the landing and takeoff of aircraft, and includes its buildings and facilities, if any.

Federal Airways (14 CFR 71.15) - Federal airways include Class E airspace extending upwards from 1,200' AGL to and including 17,999' MSL. The airways extend 4 NM on each side of the airway's centerline. Thus, they are 8 NM wide.

Persons Authorized to Perform Maintenance, Preventive Maintenance, Rebuilding, and Alterations Preventative Maintenance (14 CFR Part 43.3) - This regulation specifies who is legally permitted to conduct maintenance, preventive maintenance, rebuilding, and alterations on aircraft. Typically, these individuals are licensed mechanics, repair stations, or the manufacturers. However, a certificated pilot may perform certain preventative maintenance functions on an airplane owned and operated by that pilot that is not flown in air carrier services.

Persons Authorized to Approve Aircraft, Airframes, Aircraft Engines, Propellers, Appliances, or Component Parts for Return to Service after Maintenance, Preventive Maintenance, Rebuilding, or Alteration (14 CFR 43.7) - Only certain qualified persons, such as certified mechanics or repair stations, can approve aircraft and related parts for return to service after they have undergone maintenance or alterations. This ensures that the work meets safety standards.

Preventative Maintenance Return to Service (14 CFR 43.9) - After performing maintenance, preventive maintenance, rebuilding, or alterations on an aircraft, detailed records must be kept. These records should include a description of the work done, the date of completion, and the name of the person approving the work.

Preventative Maintenance Return to Service (14 CFR 91.407) – After performing preventative maintenance, no person (other than flight crew members) may be carried until an appropriately rated pilot with at least a private pilot certificate flies the aircraft, makes an operational check of the maintenance performed or alteration made, and logs the flight in the aircraft records.

Preventative Maintenance Applicability (14 CFR 43 Appendix A) - This appendix details what constitutes major alterations and major repairs compared to preventive maintenance. It includes examples and categories of each, guiding what needs to be documented and how compliance with airworthiness standards is maintained. Preventative maintenance refers to simple or minor operations and the replacement of small parts not involving complex assembly operations. Some examples of this include

- replenishing hydraulic fluid
- servicing landing gear wheel bearings
- removal, installation, and repair of landing gear tires
- lubrication not requiring disassembly
- replacing safety belts
- replacing bulbs, reflectors, and lenses of position and landing lights
- replacing or cleaning spark plugs and setting of spark plug gap clearance
- replacing and servicing batteries

Aircraft Registration (14 CFR Part 47) - This part outlines the requirements and procedures for registering an aircraft with the FAA. Every aircraft owner must register their aircraft to receive a unique aircraft registration number, commonly referred to as an "N-number," which must be displayed prominently on the aircraft. This registration process involves submitting specific forms and supporting documents to prove ownership and the eligibility of the aircraft for registration in the United States. The registration must be renewed periodically, and any changes in ownership, address, or aircraft status must be reported to the FAA. This ensures that the national aircraft registry is up-to-date, and that each aircraft can be uniquely identified, which is crucial for legal operation, tracking, and safety purposes.

Category and Class

Category for

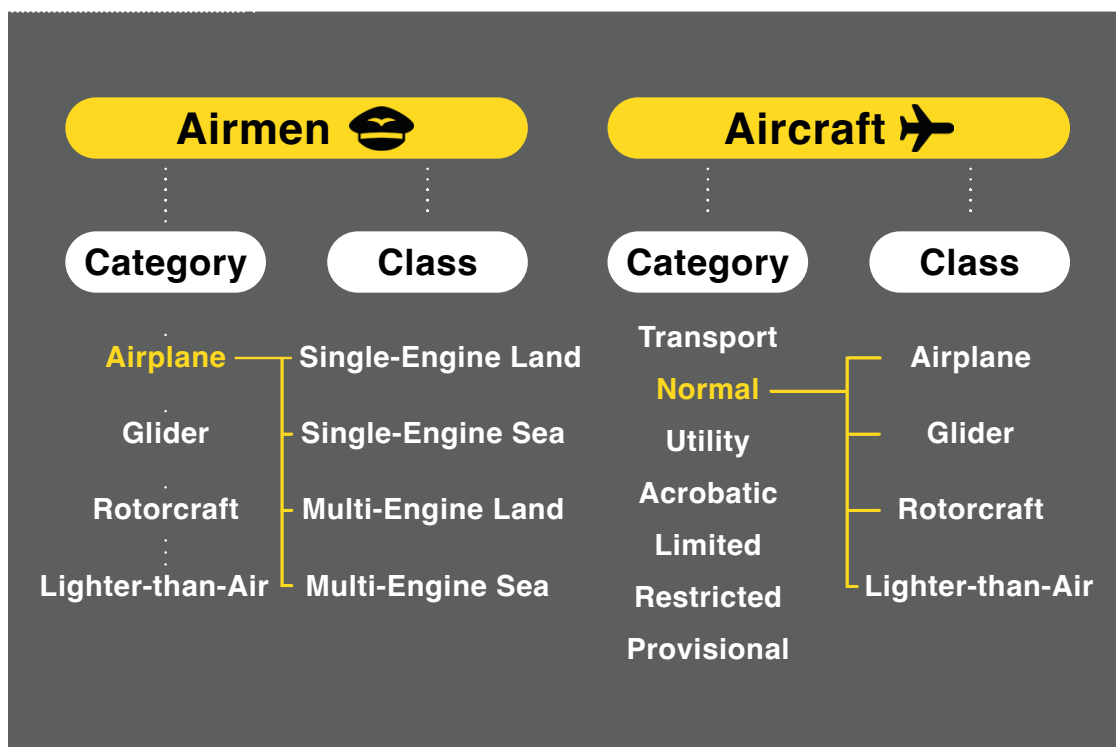
Airman Certification: This refers to a broad classification of aircraft that dictates the certification, ratings, privileges, and limitations of airmen. Examples include airplane, rotorcraft, glider, and lighter-than-air vehicles.

Aircraft Certification: This refers to a grouping of aircraft based on their intended use or operational limits. Examples include transport, normal, utility, acrobatic, experimental, light sport, limited, primary, restricted, and provisional types.

Class for

Airman Certification: This refers to more specific classifications within a category, grouping aircraft that have similar operating features. Examples include single engine, multi-engine, land, sea, gyroplanes, helicopters, airships, and free balloons.

Aircraft Certification: In this context, a class denotes a broad grouping of aircraft that share similar propulsion, flight, or landing characteristics. Examples include airplanes, rotorcraft, gliders, balloons, airplane-land, and airplane-sea.



49 CFR 830 NTSB – Notification and Reporting of Aircraft Accidents and Incidents and Overdue Aircraft, and Preservation of Aircraft Wreckage, Mail, Cargo, and Records.

Reports (49 CFR 830.5) - An incident resulting from a flight control system malfunction or failure requires an immediate notification to the nearest NTSB field office.

An in-flight fire requires an immediate notification to the nearest NTSB field office.

A flight control system or malfunction must be reported to the nearest NTSB field office immediately.

An overdue aircraft that is believed to be involved in an accident requires an immediate notification to the nearest NTSB field office.

If an aircraft is involved in an accident with results in substantial damage to the aircraft, the nearest NTSB field office should be notified immediately.

The inability of any required crewmember to perform his duties due to illness or in-flight injury must be immediately reported to the NTSB.

Any airplane collision in-flight must be immediately reported to the NTSB.

The operator of an aircraft must file a report with the NTSB within 10 days after an accident, or 7 days if an overdue aircraft is still missing.

The operator of an aircraft must file a report with nearest NTSB field office when requested if the aircraft was involved in an incident.

Preservation of Aircraft Wreckage, Cargo, and Records (49 CFR 830.10) - Handling of aircraft wreckage is regulated. Prior to the time the NTSB takes custody of aircraft wreckage, or cargo, the wreckage and cargo, may not be disturbed or moved except to:

- 1) Remove persons injured or trapped,
- 2) Protect wreckage from further damage,
- 3) Protect the public from injury.

Accident vs. Incident (49 CFR 830.2 Definitions)

- (1) **Aircraft Accident** - means an occurrence associated with the operation of an aircraft in which any person suffers death or serious injury, or in which the aircraft receives substantial damage.
- (2) **Incident** - means an occurrence other than an accident, associated with the operation of an aircraft, which affects or could affect the safety of operations.
- (3) **Operator** - means any person who causes or authorizes the operation of an aircraft, such as the owner or lessee of the aircraft.

Near Midair Collision (NMAC) Reporting (AIM 7-7-3) - A NMAC is an incident in which a possibility of a collision occurs as a result of proximity of less than 500 feet to another aircraft. It is the responsibility of pilots and/or flight crew members to determine whether a NMAC actually did occur and, if so, to initiate a NMAC report.