

# Regulations and Airworthiness

Private Pilot Ground Lesson 2

# Relevant FARs

CFR § 61.105(b) - Aeronautical Knowledge, Required Areas
Area
(1) Applicable Federal Aviation Regulations of this chapter that relate to private pilot privileges, limitations, and flight operations;
(2) Accident reporting requirements of the National Transportation Safety Board;
(3) Use of the applicable portions of the “Aeronautical Information Manual” and FAA advisory circulars;
(4) Use of aeronautical charts for VFR navigation using pilotage, dead reckoning, and navigation systems;
(5) Radio communication procedures;
(6) Recognition of critical weather situations from the ground and in flight, windshear avoidance, and the procurement and use of aeronautical weather reports and forecasts;
(7) Safe and efficient operation of aircraft, including collision avoidance, and recognition and avoidance of wake turbulence;
(8) Effects of density altitude on takeoff and climb performance;
(9) Weight and balance computations;
(10) Principles of aerodynamics, powerplants, and aircraft systems;
(11) Stall awareness, spin entry, spins, and spin recovery techniques for the airplane and glider category ratings;
(12) Aeronautical decision making and judgment; and
(13) Preflight action that includes - <ul style="list-style-type: none"><li>(i) How to obtain information on runway lengths at airports of intended use, data on takeoff and landing distances, weather reports and forecasts, and fuel requirements; and</li><li>(ii) How to plan for alternatives if the planned flight cannot be completed or delays are encountered.</li></ul>

# Relevant ACS

## I. Preflight Preparation

<b>Task</b>	<b>A. Pilot Qualifications</b>
<b>References</b>	14 CFR parts 61, 68, 91; FAA-H-8083-2, FAA-H-8083-25; AC 68-1
<b>Objective</b>	To determine that the applicant exhibits satisfactory knowledge, risk management, and skills associated with airman and medical certificates including privileges, limitations, currency, and operating as pilot-in-command (PIC) as a private pilot.
<b>Knowledge</b>	The applicant demonstrates understanding of:
PA.I.A.K1	Certification requirements, recent flight experience, and recordkeeping.
PA.I.A.K2	Privileges and limitations.
PA.I.A.K3	Medical certificates: class, expiration, privileges, temporary disqualifications.
PA.I.A.K4	Documents required to exercise private pilot privileges.
PA.I.A.K5	Part 68 BasicMed privileges and limitations.
<b>Risk Management</b>	The applicant demonstrates the ability to identify, assess and mitigate risks, encompassing:
PA.I.A.R1	Failure to distinguish proficiency versus currency.
PA.I.A.R2	Flying unfamiliar airplanes, or operating with unfamiliar flight display systems, and avionics.
<b>Skills</b>	The applicant demonstrates the ability to:
PA.I.A.S1	Apply requirements to act as PIC under Visual Flight Rules (VFR) in a scenario given by the evaluator.

## I. Preflight Preparation

<b>Task</b>	<b>B. Airworthiness Requirements</b>
<b>References</b>	14 CFR parts 39, 43, 91; FAA-H-8083-2, FAA-H-8083-25
<b>Objective</b>	To determine that the applicant exhibits satisfactory knowledge, risk management, and skills associated with airworthiness requirements, including airplane certificates.
<b>Knowledge</b>	The applicant demonstrates understanding of:
PA.I.B.K1	General airworthiness requirements and compliance for airplanes, including:
PA.I.B.K1a	a. Certificate location and expiration dates
PA.I.B.K1b	b. Required inspections and airplane logbook documentation
PA.I.B.K1c	c. Airworthiness Directives and Special Airworthiness Information Bulletins
PA.I.B.K1d	d. Purpose and procedure for obtaining a special flight permit
PA.I.B.K2	Pilot-performed preventive maintenance.
PA.I.B.K3	Equipment requirements for day and night VFR flight, to include:
PA.I.B.K3a	a. Flying with inoperative equipment
PA.I.B.K3b	b. Using an approved Minimum Equipment List (MEL)
PA.I.B.K3c	c. Kinds of Operation Equipment List (KOEL)
PA.I.B.K3d	d. Required discrepancy records or placards
<b>Risk Management</b>	The applicant demonstrates the ability to identify, assess and mitigate risks, encompassing:
PA.I.B.R1	Inoperative equipment discovered prior to flight.
<b>Skills</b>	The applicant demonstrates the ability to:
PA.I.B.S1	Locate and describe airplane airworthiness and registration information.
PA.I.B.S2	Determine the airplane is airworthy in a scenario given by the evaluator.
PA.I.B.S3	Apply appropriate procedures for operating with inoperative equipment in a scenario given by the evaluator.

# Reading

- FAR 61.109
  - ACS I, Task A and B
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- This isn't the most exciting material... but it's important.

# You Should Know...

- **Part 43** – Maintenance
- **Part 61** – Certification of Pilots
- **Part 67** – Medicals
- **Part 91** – General Aviation Regulations

# Certification Requirements: FAR 61.109 (PPL)

- 40 hours flight time
  - 20 hours flight training
  - 10 hours solo flight
    - 5 hours of solo cross-country time
    - One solo cross-country flight of at least 150 nm with two stops
    - Three solo takeoffs and landings to a full stop at an airport with an operating control tower
  - 3 hours of night flight training (10 full stop takeoffs and landings at night and one 100 NM total distance night cross country)
  - 3 hours of flight training on the control and maneuvering solely by reference to instruments
  - 3 hours of cross-country flight training
  - 3 hours of flight training in preparation for the checkride

# Recent Flight Experience: FAR 61.57, 61.56

- To carry passengers during the day you must have made 3 landings (full stop in a tail wheel) in the previous 90 days
- To carry passengers at night (“during the period beginning 1 hour after sunset and ending 1 hour before sunrise”) you must have made 3 full stop landings at night in the previous 90 days also “during the period beginning 1 hour after sunset and ending 1 hour before sunrise”
- To act as PIC, you must have had a flight review (or passed a checkride) in the previous 24 calendar months (FAR 61.56)

# Recordkeeping: FAR 61.51

- You must record time and landings required to meet the recent flight experience
- You don't necessarily have to record every single time you fly



# Privileges and limitations: FAR 61.113

- **Privileges:** You may act as PIC and carry passengers as long as you meet recency requirements
- **Limitations:** You cannot carry passengers or property for higher unless:
  - You are not paying less than the pro rata share of the operating expenses of a flight with passengers
  - The flight is incidental to a business operation
  - It is for charitable purposes
  - You are an aircraft salesman with at least 200 hours of flight time to show a plane to a prospective buyer

# Medical certificates: class, expiration, privileges, temporary disqualifications: FAR 67

- **Privileges:**
  - **First Class** – Pilot-in-command privileges of an airline transport pilot certificate
  - **Second Class** – Privileges of a commercial pilot certificate
  - **Third Class** – Privileges of a private pilot certificate, recreational pilot certificate, or student pilot certificate (and flight instructor or examiner)
- **Temporary Disqualifications (ENR 1.1.2)** – Temporary conditions like acute infections, anemia, and peptic ulcer or temporary use of sedating medication (e.g., allergy medications)

Class	Expiration when < Age 40	Expiration when > Age 40	Required For
First Class	12 Months	6 Months	Airline Transport
Second Class	12 Months	12 Months	Commercial
Third Class	60 Months	24 Months	Student/Private

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# Documents required to exercise private pilot privileges: FAR 61.3

- Pilot or Temporary Certificate
- Photo Identification (like a Driver's License)
- Medical certificate

# Part 68 BasicMed privileges and limitations:

## FAR 68; AC 68-1A

- **Privileges** – An alternative way to act as PIC (with some limitations) without a medical
- **Limitations (FAR 61.113(I)(1))**
  - Fly with no more than five passengers
  - Fly an aircraft with a maximum certificated takeoff weight of no more than 6,000 lbs.
  - Fly an aircraft that is authorized to carry no more than 6 occupants
  - Flights within the United States, at an indicated airspeed of 250 knots or less, and at an altitude at or below 18,000 feet mean sea level (MSL)
  - You may not fly for compensation or hire
- **Requirements**
  - Comply with the general BasicMed requirements (possess a U.S. driver's license, have held a medical after July 14, 2006)
  - Get a physical exam with a state-licensed physician, using the Comprehensive Medical Examination Checklist
  - Complete a BasicMed medical education course

# General airworthiness requirements and compliance for airplanes, including:

- **Certificate location and expiration dates (FAR 91.203)**
  - The Airworthiness certificate needs to be displayed so it's visible to passengers and crew and never expires as long as it "meets its approved type design, is in a condition for safe operation and maintenance, preventative maintenance, and alterations are performed in accordance with 14 CFR parts 21, 43, and 91."
  - The Aircraft registration expires after 3 years and needs renewal.
- **Required inspections and airplane logbook documentation (AV1ATE)**
  - **A**nual: FAR 91.409(a)
  - **V**OR (IFR Only) every 30 days: FAR 91.171
  - **1**00-Hour (if for hire): FAR 91.409(b)
  - **A**ltimeter/Pitot-Static (IFR Only) every 24 months: FAR 91.411
  - **T**ransponder every 24 months: FAR 91.413
  - **E**LT every 12 months: FAR 91.207
  - All relevant Airworthiness Directives: FAR 91.213

# Airworthiness Directives and Special Airworthiness Information Bulletins

- **Airworthiness Directives** – Legally enforceable regulations issued by the FAA in accordance with **14 CFR Part 39** to correct an unsafe condition in a product. Part 39 defines a product as an aircraft, engine, propeller, or appliance.
  - Either one time or recurring, needs to be complied with to maintain airworthiness.
- **Special Airworthiness Information Bulletins** – n information tool that alerts, educates, and makes recommendations to the aviation community. SAIBs contain non-regulatory information and guidance that does not meet the criteria for an Airworthiness Directive (AD). Guidance on when to use an SAIB, and how to develop and issue an SAIB is provided in **Order 8110.100**.

# Purpose and procedure for obtaining a special flight permit ([AFG-PHL-FSDO-17](#))

- A Special Flight Permit (SFP), commonly referred to as a Ferry Permit, may be issued to any U.S.-Registered aircraft that may not meet applicable Airworthiness Requirements but is capable of safe flight. The SFP will be issued by the FSDO geographically responsible for the area in which the flight is to originate.
- TL;DR – Apply through your FSDO



# Pilot-performed preventive maintenance (FAR 43.3, Appendix A[c])

- Essentially, you can do non-complex tasks that include some of the following:
  - Removal, installation, and repair of landing gear tires
  - Servicing landing gear shock struts by adding oil, air, or both
  - Replenishing hydraulic fluid in the hydraulic reservoir
  - Replacing safety belts
  - Replacing bulbs, reflectors, and lenses of position and landing lights
  - Replacing wheels and skis where no weight and balance computation is involved

# Equipment requirements for day and night VFR flight, to include

## Day VFR (**A TOMATO FLAMES**) (**FAR 91.205**):

**A**irspeed Indicator  
**T**achometer  
**O**il Pressure Gauge  
**M**anifold Pressure Gauge  
**A**ltimeter  
**T**emperature Gauge  
**O**il Temperature Gauge  
**F**uel level Gauge

**L**anding Gear Position Indicator  
**A**nti-Collision lights  
**M**agnetic Heading Indicator  
**E**LT  
**S**eat Belts

## Night VFR (**ATOMATO FLAMES + FLAPS**) (**FAR 91.205**):

**F**uses (if applicable)  
**L**anding Light (if used for hire)  
**A**nticollision Lights  
**P**osition indicator Lights  
**S**ource of Power (e.g., battery)

# Flying with inoperative equipment (FAR 91.213(d)(3))

- Step 1: Make sure it's not required for airworthiness (for example, follow the pyramid below).
- Step 2: Remove, placard, and record the item or deactivate and placard it "Inoperative".

# MELs and KOELs

- **Minimum Equipment List (MEL)** – These lists specify what equipment must be on board and act as a supplemental type certificate. Most small airplanes do not have these. An example is these allow a 737 to take off without one of the coffee makers on board.
- **Kinds of Operation Equipment List (KOEL)** - A list that specifies which equipment is needed for different kinds of operation. This is typically published in the Pilot's Operating Handbook or Airplane Flight Manual (AFM).

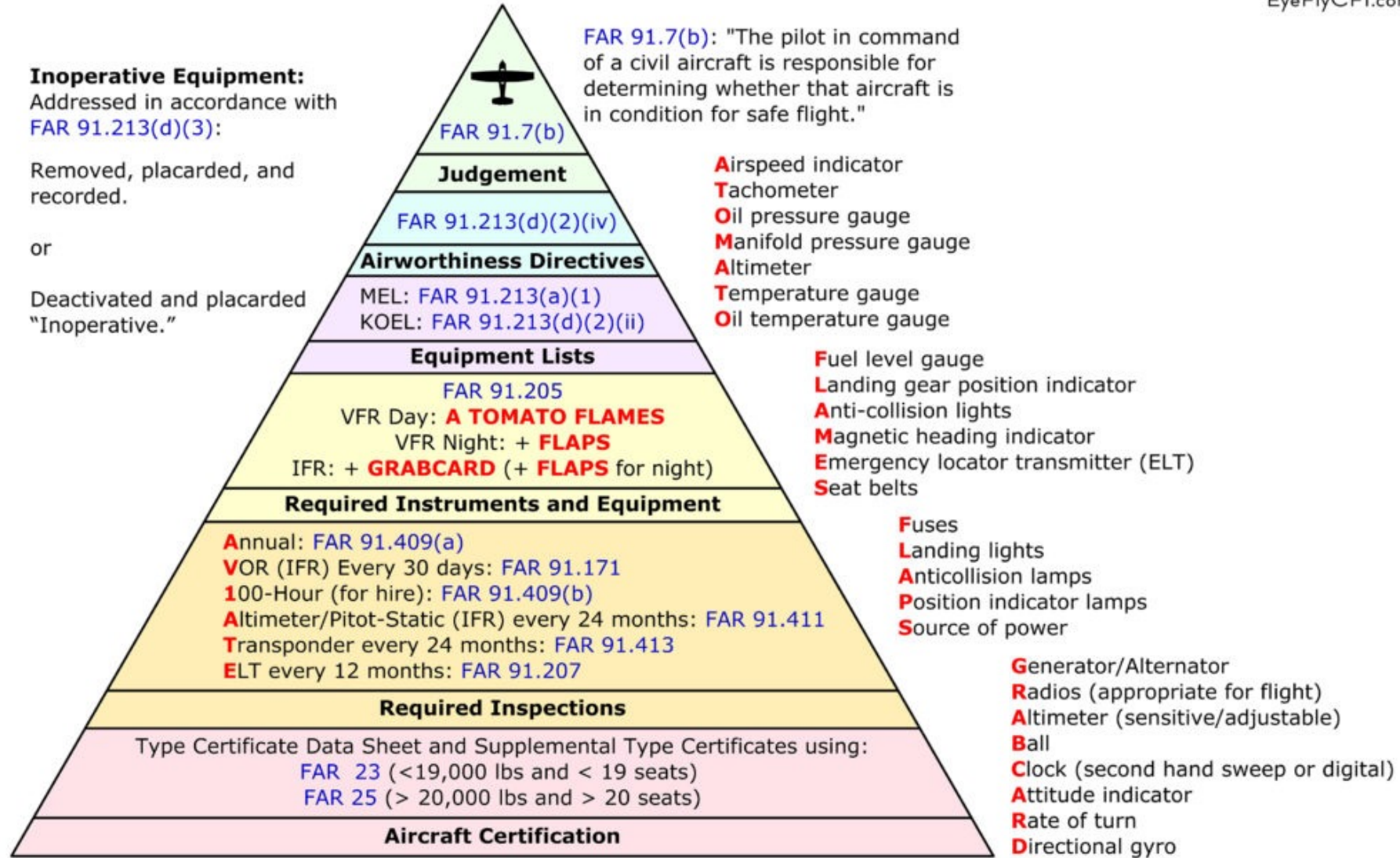
# Required discrepancy records or placards (FAR 43.11(b))

- These include the Compass Deviation card, Maneuvering Speed ( $V_a$ ), and Day-Night-VFR-IFR Placard.

# ARROW

- **Documents that must be onboard the aircraft**
- **A**irworthiness Certificate **FAR 91.203**
- **R**egistration Certificate **FAR 91.203**
- **R**adio Station License (international flights only)
- **O**perating Limitations (POH and Placards): **FAR 91.9**
- **W**eight and Balance: **FAR 23.2620**

# Guide to Airworthiness



The reason a Minimum Equipment List (MEL) or Type Certificate Data Sheet (TCDS) doesn't include things like "two (2) wings" is because they are certificated under Part 23 or 25 which specifies performance and aerodynamic properties. The FARs, including Part 23, commenced on February 1, 1965 so older aircraft (e.g. C172, C150) were actually certificated under the older US Civil Air Regulations.

# Questions?