

Aviation Acronyms and Checklists Study Guide

This comprehensive study guide compiles critical aviation acronyms, memory aids, and sequential checklists used by pilots for flight planning, risk assessment, airworthiness verification, systems configuration, and in-flight decision-making.

1. Pre-Flight & Risk Management

PAVE

Used to identify and mitigate risks before a flight.

- **Pilot:** Illness, medication, stress, alcohol, fatigue, emotion - IM SAFE.
- **Aircraft:** Airworthiness, equipment, performance.
- **eNvironment:** Weather, airspace, terrain, airport conditions.
- **External Pressures:** Meetings, desire to impress, "get-there-itis".

IM SAFE

The checklist to determine pilot airworthiness.

- **Illness**
- **Medication**
- **Stress**
- **Alcohol**
- **Fatigue**
- **Emotion**

SAFETY

The passenger briefing acronym.

- **Seatbelts and harnesses**
- **Air vents and environmental controls**
- **Fire extinguisher location and operation**
- **Exit doors and emergency evacuation plan**
- **Traffic (scanning) and Talking (sterile cockpit)**
- **Your questions?**

2. Aircraft Airworthiness & Documents

ARROW

Mandatory documents that must be onboard the aircraft.

- **Airworthiness Certificate**
- **Registration Certificate**
- **Radio Station License** (only required for international flights)
- **Operating Limitations** (POH/AFM, placards, markings)
- **Weight and Balance data** (specific to that exact aircraft)

AVIATES

Required aircraft maintenance inspections for VFR flight.

- **Annual inspection** (every 12 calendar months)
- **VOR check** (every 30 days, required only for IFR operations)
- **100-hour inspection** (if carrying passengers for hire or giving flight instruction)
- **Altimeter/Static system check** (every 24 calendar months, required for IFR)
- **Transponder check** (every 24 calendar months)
- **ELT** (Emergency Locator Transmitter - check every 12 calendar months; battery replaced after 1 cumulative hour of use or 50% useful life)
- **Security Directives / Airworthiness Directives (ADs)** complied with

3. Required VFR Equipment (FAR 91.205)

A TOMATO FLAMES

Required day VFR instruments and equipment.

1. **Altimeter**
2. **Tachometer** (for each engine)
3. **Oil pressure gauge** (for each engine using pressure system)
4. **Manifold pressure gauge** (for each altitude engine / constant-speed prop)
5. **Airspeed indicator**
6. **Temperature gauge** (for each liquid-cooled engine)
7. **Oil temperature gauge** (for each air-cooled engine)
8. **Fuel gauge** (indicating quantity in each tank)

9. **Landing gear position indicator** (if aircraft has retractable gear)
10. **Anti-collision lights** (aviation red or white, for aircraft certified after March 11, 1996)
11. **Magnetic direction indicator** (compass)
12. **ELT** (Emergency Locator Transmitter)
13. **Safety belts** (and shoulder harnesses for front seats if manufactured after 1978)

FLAPS

Required night VFR instruments and equipment (in addition to day VFR).

- **Fuses** (one spare set, or three spare fuses of each kind required, accessible to the pilot in flight; or circuit breakers)
- **Landing light** (only if the aircraft is operated for hire)
- **Anti-collision light system** (strokes/beacons)
- **Position lights** (navigation lights - red on left wing, green on right wing, white on tail)
- **Source of electrical energy** (alternator or generator for all installed electrical and radio equipment)

4. In-Flight Navigation & Decisions

DECIDE

The 6-step continuous decision-making model.

- **Detect** (a change or hazard has occurred)
- **Estimate** (the need to counter or react to the change)
- **Choose** (a desirable outcome or objective)
- **Identify** (actions which could successfully control the change)
- **Do** (take the necessary action)
- **Evaluate** (the effects of the action to see if it worked)

The 5 C's

What to do when you are lost in flight.

- **Confess** (admit to yourself and ATC that you are unsure of your position)
- **Climb** (to see farther, improve radio reception, and avoid terrain)
- **Conserve** (lean the mixture and adjust power to maximize fuel endurance)
- **Communicate** (call ATC or use FSS/Flight Service on local frequencies)
- **Comply** (follow the instructions given by ATC once contact is made)

5. Compass Errors

ANDS

Compass acceleration error (when flying on an East or West heading).

- **Accelerate** → **Turns North**
- **Decelerate** → **Turns South**

UNOS

Compass turning error (when turning to/from a North or South heading).

- **Undershoot North** (stop the turn before the compass reaches North)
- **Overshoot South** (pass the heading on the compass before stopping the turn)

6. Aircraft Systems & General Acronyms

AOA

Angle of Attack: The angle between the chord line of the wing and the relative wind.

AGL

Above Ground Level: Altitude measured directly above the underlying terrain.

MSL

Mean Sea Level: Altitude measured from average sea level (what your altimeter shows when properly set).

VFR / IFR

Visual / Instrument Flight Rules: The two primary sets of regulations governing flight conditions.

POH

Pilot's Operating Handbook: The aircraft's specific "owner's manual" containing performance data and limitations.

ADI

Attitude Director Indicator: The "attitude indicator" or artificial horizon.

HSI

Horizontal Situation Indicator: A flight instrument that combines a directional gyro with navigation indicators (like a VOR/ILS).

GPS

Global Positioning System: Satellite-based navigation.

VOR

VHF Omnidirectional Range: A ground-based short-range radio navigation system.

NDB

Non-Directional Beacon: A low or medium-frequency radio transmitter used with an ADF (Automatic Direction Finder) to navigate.

PARE

The spin recovery sequence: **P**ower idle, **A**ilerons neutral, **R**udder opposite, **E**levator forward.

NWKRAFT

Everything a pilot must familiarize themselves with before a flight (**N**OTAMs, **W**eather, **K**nown ATC delays, **R**unway lengths, **A**lternates, **F**uel requirements, **T**akeoff/landing data).

METAR / TAF

Weather reporting and forecast indicators (Meteorological Aerodrome Report / Terminal Aerodrome Forecast).

IMC / VMC

Instrument / Visual Meteorological Conditions representing actual flying weather.

CHAPS

Pre-maneuver clearing checklist: **C**lear, **H**eight, **A**irspeed, **P**osition, **S**ecurity.

7. Engine Run-Up, Pre-Takeoff & Landing Checklists

CIGAR TIPS

The CIGAR TIPS acronym is a highly reliable, sequential checklist used right before taxiing onto the runway for takeoff. It ensures the aircraft is mechanically configured and ready for flight.

- **C – Controls:** Check flight controls (ailerons, elevator, rudder) to ensure they are free, correct, and moving in the proper direction.
- **I – Instruments:** Verify flight and engine instruments are set (e.g., altimeter set to local pressure, heading indicator aligned with the magnetic compass, engine gauges in the green).
- **Gas:** Ensure the fuel selector is on the proper tank (typically the fullest tank), fuel pump is on (if required), and you have sufficient fuel visual confirmation.
- **A – Attitude / Trim:** Set the pitch trim (and rudder/aileron trim if equipped) to the designated takeoff position.
- **R – Run-up:** Perform the engine magneto check, propeller cycling (if constant-speed), and carburetor heat check at the specified RPM.
- **T – Tabs:** Double-check that flaps are set to the correct takeoff angle and trim tabs are secure.
- **I – Interior:** Secure all cabin doors, windows, baggage, and ensure seatbelts/harnesses are locked.
- **Props / Pumps:** Set the propeller to full RPM (if applicable) and ensure the auxiliary fuel pump is turned on.
- **S – Safety / Switches:** Turn on required lights (strokes, landing light), transponder on (ALT mode), and review emergency procedures for an aborted takeoff.

CGUMPS

The essential landing/approach checklist.

- **C – Carb Heat** (On)
- **G – Gas** (Fullest tank)
- **U – Undercarriage** (Welded down)
- **M – Mixture** (Rich)
- **P – Power** (Set for descent)
- **S – Switches / Seatbelts** (Landing light on, belts tight)