

The PPL Cheat Sheet

P40 Communications

The facts that actually get tested in the EASA PPL(A) theory exams, stripped to the bone: definitions, key numbers, formulas, mnemonics and the classic traps for each subject. Built for the night before, the commute, and the last scroll before you walk into the exam hall.

P40 Communications

28 memory items

One of 9 subjects; the full set is free at skystudyatpl.com/ppi-cheat-sheet

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RTF phraseology, phonetic alphabet, numbers, standard words, read-back, call signs, distress and urgency, VHF propagation.

◆ TRANSPONDER CODES AND EMERGENCY CALLS

7500

unlawful interference

7600

radio failure

7700

general emergency

7000

VFR conspicuity

MAYDAY (distress)

Grave and imminent danger,
immediate assistance needed.

Spoken three times, on 121.5 MHz
or the frequency in use.

Absolute priority.

PAN PAN (urgency)

A safety concern that does
not need immediate help.

Spoken three times.

Ranks below distress.

PAN PAN MEDICAL adds the condition.

Numbers that trap: three is TREE, five is FIFE, nine is NINER, decimal is DAY-SEE-MAL. Read every read-back back with your call sign.

◆ MUST-KNOW DEFINITIONS AND CONCEPTS

- **Distress (MAYDAY)** means grave and imminent danger requiring immediate assistance; **urgency (PAN PAN)** is a safety concern that does not need immediate help.
- A **read-back** is repeating a clearance so the controller can confirm you heard it correctly; certain items are always read back in full.
- **ROGER** means I have received your last transmission (receipt only, not agreement or compliance); **WILCO** means I have received and will comply.
- **AFFIRM** is yes and **NEGATIVE** is no; **STAND BY** means wait and I will call you; **SAY AGAIN** asks the other station to repeat.
- A **call sign** identifies a station; on first contact with each new unit you use the full call sign, and only ATC may introduce an abbreviation.
- **Simplex** VHF uses one frequency alternately (you cannot transmit and receive at once); it is the normal air-ground mode.
- The **readability scale** runs 1 (unreadable) to 5 (perfectly readable), requested with a radio check.
- **VHF** is line-of-sight: range grows with height and is limited by terrain, not by curvature alone.

◆ KEY NUMBERS, LIMITS AND VALUES

- Emergency frequency **121.5 MHz**, monitored for distress and urgency; use it or the frequency already in use.
- The aviation **VHF band is 118.000 to 136.975 MHz**, with **8.33 kHz** channel spacing now standard.
- The **108.000 to 117.975 MHz** band below it is for navigation aids, not voice (a classic trap).
- Distress and urgency calls are each spoken **three times** (MAYDAY MAYDAY MAYDAY, or PAN PAN PAN PAN PAN PAN).
- Number words: **3 TREE**, **4 FOW-er**, **5 FIFE**, **9 NIN-er**, decimal **DAY-SEE-MAL**, hundred **HUN-dred**, thousand **TOU-SAND**.
- A five-character registration abbreviates to the **first character plus the last two** (G-ABCD becomes Golf Charlie Delta), and only after ATC uses it.
- Speak at about **100 words per minute**, at a steady rate and volume; press the transmit switch, pause, then speak.

◆ FORMULAS AND RELATIONSHIPS

- **Approximate VHF line-of-sight range (nm) is about 1.23 times the square root of the height in feet** (rule of thumb; verify the constant used in your bank).

◆ MNEMONICS AND MEMORY ITEMS

- Distress before urgency: **MAYDAY beats PAN PAN**, whichever was called first.
- **Alfa, Bravo, Charlie ...**: spell names, registrations, abbreviations and anything that could be misheard, never the standard words.
- Read back **runway, altimeter, SSR code, level and heading/speed instructions, and any clearance to enter, cross, land, take off or hold short**.
- **Nature of the distress comes early** in a MAYDAY call, right after the call sign, before intentions.
- End every read-back with your **call sign**; ROGER and WILCO never replace a required read-back.

◆ COMMON EXAM TRAPS

- **ROGER is receipt only**. It does not mean yes and it does not mean you will comply; use WILCO for compliance and AFFIRM for yes.
- Numbers are spoken **digit by digit** for headings, levels, squawk and call signs (heading 080 is ZE-RO AIT ZE-RO).
- The registration abbreviation keeps the **first letter and the last two**, but a type-plus-registration call drops the nationality prefix; the two rules differ.
- The **108 to 118 MHz** band is navigation, not voice; do not expect to talk on it.
- **Minimum fuel is advisory only**. A fuel state needing priority is PAN PAN; only fuel too low to reach any suitable aerodrome is MAYDAY.
- 121.5 MHz is not the automatic first choice; call on the **frequency in use first** unless that brings no answer.
- Say **DAY-SEE-MAL**, not the plain word decimal, and keep it consistent.

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