

The Ultimate PPL Theory Cheat Sheet



1 Air Law

Altimeter Settings

QNH: Pressure at MSL. Reads Altitude.

QFE: Pressure at airfield. Reads Height.

Standard (1013): Reads FL. Above TA.

UK VFR Minima

≤3,000ft AMSL or 1,000ft AGL, ≤140 KIAS

Airspace	Vis	Cloud Sep
A	-	VFR Not Permitted
D	5 km	Clear of cloud
G	1.5 km	Clear of cloud

Height and Distance Rules

Congested Areas: 1,000 ft above highest obstacle (600m radius).

Elsewhere: 500 ft from any person/vessel/vehicle/structure.

2 Operational Procedures

Emergency Squawk Codes

7700: Emergency

7600: Radio/Comms Failure

7500: Unlawful Interference

Wake Turbulence Avoidance

Landing: Stay above path, land beyond touchdown.

Take-off: Rotate before rotation point, climb above path.

3 Human Performance

IMSAFE Checklist

I - Illness

M - Medication

S - Stress

A - Alcohol (8hrs)

F - Fatigue

E - Emotion/Eating

Key Physiological Risks

Hypoxia: O₂ deficiency. Descend.

Hyperventilation: Over-breathing. Slow rate.

Spatial Disorientation: Trust instruments.

4 Principles of Flight

The Four Forces

Lift opposes Weight

Thrust opposes Drag

Axes of Rotation

Pitch (Lateral): Elevator

Roll (Longitudinal): Ailerons

Yaw (Normal/Vertical): Rudder

Key V-Speeds

V_{SO}: Stall landing (white arc bottom)

V_{SI}: Stall clean (green arc bottom)

V_X: Best angle climb

V_Y: Best rate climb

V_{NO}: Max cruise (green arc top)

V_{NE}: Never exceed (red line)

5 Aircraft General Knowledge

Pitot-Static Blockages

Blocked Pitot: Airspeed Indicator (ASI) acts like an altimeter.

Blocked Static: ASI under-reads climb, over-reads descent. Alt & VSI freeze.

Navigation Lights

Left Wing: Red

Right Wing: Green

Tail: White

6 Flight Performance & Planning

Weight & Balance

Moment = Weight × Arm

C of G = Total Moment ÷ Total Weight

AVGAS: ~0.72 kg/litre

Performance Factors

High Density Alt: Reduces performance

↑ Weight: ↑ T/O distance, ↑ stall speed

Aft C of G: ↓ stability, can ↑ cruise speed

7 Navigation

1-in-60 Rule

1° error over 60 NM = 1 NM off track

Track Error Angle:

(Off Track ÷ Dist Gone) × 60

Closing Angle:

(Off Track ÷ Dist to Go) × 60

VFR Cruising Altitudes (>3,000ft AGL)

000-179° (E): Odd thousands + 500 ft

180-359° (W): Even thousands + 500 ft

8 Meteorology

METAR/TAF Codes

Weather	Cloud
RA: Rain	FEW: 1-2/8
SN: Snow	SCT: 3-4/8
SH: Showers	BKN: 5-7/8
FG: Fog	OVC: 8/8
BR: Mist	NSC: No Sig
TS: Storm	CAVOK: OK

Cloud Base

(Temp - Dew Point) ÷ 2.5 × 1000 ft

9 Communications

Emergency Calls

Emergency Freq: 121.5 MHz

MAYDAY ×3: Grave danger

PAN PAN ×3: Urgent

ICAO Phonetic

Alfa	Juliett	Sierra
Bravo	Kilo	Tango
Charlie	Lima	Uniform
Delta	Mike	Victor
Echo	November	Whiskey
Foxtrot	Oscar	X-ray
Golf	Papa	Yankee
Hotel	Quebec	Zulu
India	Romeo	