

The ATPL Cheat Sheet

070 Operational Procedures

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

070 Operational Procedures

43 memory items

One of 14 subjects; the full set is free at skystudyatpl.com/atpl-cheat-sheet

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Operational Procedures

Ops documents, dangerous goods, low-visibility ops, wake turbulence, MEL.

◆ THE 9 DANGEROUS GOODS CLASSES



Explosives



Flammable solids



Radioactive



Gases



Oxidisers



Corrosives



Flammable liquids



Toxic / infectious



Miscellaneous

The numeric order is the exam-testable sequence. Class 9 (miscellaneous) includes lithium batteries, dry ice and magnetised material. The **NOTOC** informs the commander of all dangerous goods loaded.

◆ MUST-KNOW DEFINITIONS AND CONCEPTS

- The **operator** holds primary responsibility for safe operation; the **commander** has final authority in flight and may deviate from any procedure in an emergency.
- The **Operations Manual** has Parts A (general), B (aircraft operating), C (route/aerodrome) and D (training).
- **Aerodrome operating minima** (RVR/visibility and cloud base) depend on runway facilities, approach category and aircraft category.
- **Aircraft category A/B/C/D** (based on V_{at} , the reference landing speed) sets the applicable minima and protected airspace.
- **Low Visibility Operations (LVO)** cover takeoff and approach/landing below standard CAT I, needing Low Visibility Procedures (LVP), training and approval.
- **Clean aircraft**: no takeoff with frost, ice or snow adhering to critical surfaces.
- **Holdover time (HOT)** is the estimated time anti-icing fluid protects surfaces, given as a range; a pre-takeoff check confirms whether protection has run out.
- **MEL** is the operator's list of equipment that may be inoperative for dispatch; it can never be less restrictive than the manufacturer's **MMEL**.
- **CDL** (Configuration Deviation List) permits dispatch with certain external parts missing, usually with a performance penalty.
- **NOTOC** notifies the commander of all dangerous goods loaded.
- Decompression is **explosive, rapid or gradual** by rate of pressure loss; the crew response depends on the classification.
- **TCAS** gives Traffic Advisories then Resolution Advisories (climb/descend); **GPWS/EGPWS** gives terrain warnings.
- **Wake turbulence** categories by maximum takeoff mass: Light, Medium, Heavy, Super (the

A380 is the classic Super).

- **ETOPS/EDTO** governs operations beyond a set single-engine diversion time from an adequate aerodrome, needing specific approval and planning.
- A **contaminated runway** has more than **25%** of the assessed surface covered by water, slush, snow, ice or frost.
- **Noise abatement** departures (NADP 1 and NADP 2) reduce noise near airports while staying safe.
- **Fuel jettison** reduces mass below max landing mass before an emergency landing; not all types are fitted for it.
- **Volcanic ash** is a serious hazard (engine flameout, airframe, systems); operators must avoid it and exit if encountered.

◆ KEY NUMBERS, LIMITS AND VALUES

- **90-second rule:** certification must show all occupants can evacuate through half the exits, in darkness, within 90 seconds.
- MEL rectification categories (letters and order are standard; day counts vary, verify): **A** per the MEL condition; **B** within 3 days; **C** within 10 days; **D** within 120 days (excluding the day of discovery).
- **9 dangerous goods classes:** 1 Explosives, 2 Gases, 3 Flammable liquids, 4 Flammable solids/spontaneous/water-reactive, 5 Oxidisers and organic peroxides, 6 Toxic and infectious, 7 Radioactive, 8 Corrosives, 9 Miscellaneous (includes lithium batteries, dry ice, magnetised material).
- Wake turbulence separation grows when a lighter category follows a heavier one; the largest gap is Light behind Super/Heavy **VERIFY**.
- CAT I is generally to about **200 ft DH and 550 m RVR** **VERIFY**; CAT II/III progressively reduce DH and RVR, CAT IIIB allows very low or no DH and very low RVR.
- Normal cabin altitude around **6,000 to 8,000 ft**; cabin altitude warning around 10,000 ft **VERIFY**.
- Contaminated runway threshold: more than **25%** of the assessed surface covered.

◆ MNEMONICS AND MEMORY ITEMS

- Learn the **9 DG classes by number** (1 to 9); the numeric order is the exam-testable sequence.
- TCAS RA: **comply, do not delay, do not fight it**; the RA overrides the ATC clearance.
- Wake turbulence size order: **Super, Heavy, Medium, Light** (the bigger they are, the more they stir).
- **MEL A to D** runs from most urgent (A, no fixed limit) to least urgent (D, longest interval).
- **Low Vis = less freedom, more procedure:** protected areas, extra spacing and low-vis taxi routes all activate together.
- **HOT tells you when to worry, not when it is safe:** always pair it with a pre-takeoff check.

◆ COMMON EXAM TRAPS

- Do not confuse **MEL** (inoperative systems) with **CDL** (missing external parts, usually with a performance penalty).
- MEL categories are binding limits, not commander discretion, except in a genuine emergency.
- A **TA** is advisory; an **RA** requires an immediate manoeuvre and takes priority over ATC.
- **Holdover time** is a statistical range, not a guarantee; a pre-takeoff check can still be required within it.
- The **90-second** rule is a certification demonstration (half the exits blocked), not a guaranteed real-world outcome.
- **Explosive** decompression is under a second from a large opening; **rapid** is slower but still fast; do not swap them.
- Wake separation also applies to **Medium behind Heavy/Super**, not only Light categories.
- **LVO** applies to both takeoff and landing, not just approach minima.
- **EDTO** terminology now extends the ETOPS concept to some aircraft with more than two engines.
- Dangerous goods also cover **passenger and crew** items (spare lithium batteries), not only cargo.
- **Volcanic ash** also abrades windscreens and blocks pitot/static, not only engines.
- A **contaminated** runway is a distinct, more severe category than merely wet, with different performance calculations.

◆ EXAM FIGURES FROM THE SKYSTUDY QUESTION BANK

agent (down) fire class (across)	A solids wood, paper, fabric, seats	B liquids fuel, oil, hydraulic fluid	C electrical avionics, wiring, motors	D metals magnesium, titanium
Water / water-glycol	✓ use	✗ never	✗ never	✗ never
Halon 1211 (BCF)	~ limited	✓ use	✓ use	✗ never
CO2	~ limited	✓ use	✓ use	✗ never
Dry powder (ABC)	✓ use	✓ use	✓ use	✗ never

✓ use: suitable agent for this class

~ limited: suppresses briefly, may re-ignite (no deep cooling)

✗ never: unsafe (spreads fire or conducts current)

■ Class D metals: a dedicated metal-fire agent only, no standard aircraft extinguisher qualifies

1 Class A: cool it

Solids (seats, paper, fabric). Water or water-glycol is best: it cools below ignition and soaks in to stop re-ignition. Aim a fine mist at the base.

2 Class B: smother it

Flammable liquids (fuel, oil, hydraulic fluid). Halon, CO2 or dry powder break the flame; water is banned because it spreads the burning liquid.

3 Class C: kill the current

Electrical fires. Use a non-conductive agent (Halon or CO2) and remove power. Never use water or foam on live equipment: it conducts and can electrocute.

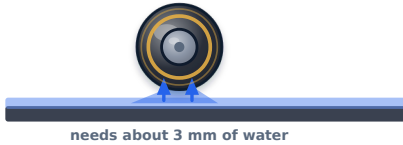
4 Halon is the aircraft agent

Halon 1211 (BCF) works on B and C with a surface effect on A, so one bottle covers most cabin fires. It is a CNS depressant above about 5%, so ventilate after use.

Match the agent to the class: water only on Class A solids, never on electrical or flammable-liquid fires. Drawn in code.

1 Dynamic (standing water)

rides on a water film



2 Viscous (thin film)

thin film on a smooth surface



3 Reverted rubber (steam)

locked wheel makes a steam seal



Dynamic hydroplaning speed: $V_p = k \times \sqrt{P}$ (P = tyre pressure, psi)
spin-up at touchdown (tyre not yet rotating): $k = 7.7$ | **spin-down on the braking rollout:** $k = 9$
 e.g. $P = 200$ psi gives spin-up about 109 kt and spin-down about 127 kt; lower tyre pressure lowers the speed.

1 Dynamic hydroplaning

On standing water (about 3 mm or more) the water pressure under the tyre lifts it clear of the surface, so it rides on a water film and braking and steering fall to near zero.

2 Viscous hydroplaning

A thin film of water, oil or rubber on a smooth or rubber-coated surface acts as a lubricant. It needs no depth and happens at the lowest speed, so the touchdown zone is prone to it.

3 Reverted-rubber hydroplaning

A locked, skidding tyre heats the water to steam; the rubber reverts and seals a near-frictionless steam cushion. It leaves a square patch and white marks, and needs anti-skid or gentle braking to avoid.

4 Wet vs contaminated runway

Wet means soaked with standing water no deeper than 3 mm. Contaminated means water deeper than 3 mm, or slush, snow or ice, over more than 25% of the required area; report braking action.

Three hydroplaning types: dynamic (standing water lifts the tyre, $V_p = 7.7$ to $9 \times \sqrt{P}$), viscous (thin film, lowest speed) and reverted-rubber (locked wheel makes steam). Drawn in code.

Two of the 369 code-drawn study figures inside the SkyStudy question bank. Try them with the free demo at skystudyatpl.com/demo.

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