Open Aviati
Solutions

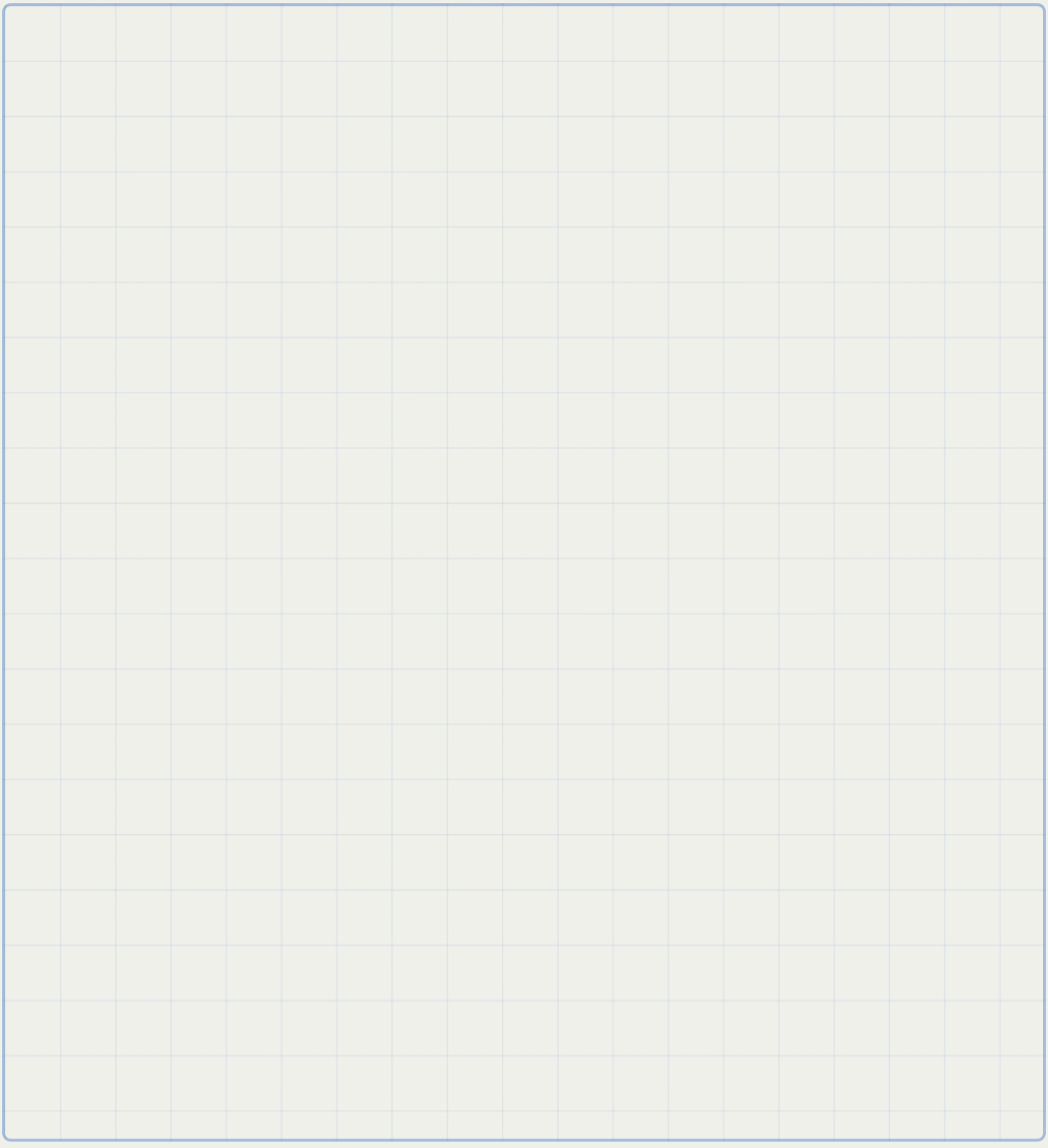
Forced Landings

CASA Recreational Pilot License (Aeroplane) — CASA Sample Syllabus
Lesson 17, Pre-flight Briefing Notes

These notes help you plan and run an interactive **whiteboard briefing** immediately before the flight — they are components to draw from, not a script to read.

My whiteboard and running order

Before the lesson, read the sections that follow, then come back here: note *your* running order and approximate timings, and sketch the whiteboard you'll draw — the 50c descent pattern, the field-selection criteria, and the immediate/vital actions sequence. For inspiration, see the NZ CAA Flight Instructor Guide whiteboards for Forced landing without power — pattern and Forced landing without power — considerations.



Using these notes

The theory session is done and the student knows today involves practising a simulated engine failure — that can raise nerves, so keep it interactive. About **15–20 minutes** at the whiteboard: **ask, draw, and listen** rather than present. The two safety-critical pieces — the **immediate/vital actions** and the **field-selection judgement** — are the heart of this briefing; the student should be able to talk both back to you before you walk to the aircraft.

The components (choose your own order on the planning page):

Component	~ time
The aim of the flight	1–2 min
Today's flight — whiteboard walk-through	3–4 min
Immediate/vital actions — rehearse it now	3–4 min
Threats and how we'll manage them	2–3 min
Questions, then fly	1–2 min

The order above puts the immediate/vital actions rehearsal right after the walk-through, on purpose — for this lesson it **is** the main threat mitigation.

The aim of the flight

Ask — "From the theory: what are we setting out to do today?"

Expect — in the student's own words:

- practise the **immediate/vital actions** following a simulated engine failure, from memory
- choose and **continually reassess** a suitable field
- fly a **glide approach** to the chosen field using the **50c technique** — small turns all the way onto final — correcting for high and low
- recognise and manage an **over- or undershoot**

Write the aim on the board — everything else hangs off *recognise, choose, fly*.

Today's flight — whiteboard walk-through

Draw — the flight as a path across the board: taxi → take-off → climb → training area → exercises → return. Fill in your local details:

- Runway: _____ Circuit direction: _____
- Training area: _____ Approved practice-forced-landing fields: _____
- Safe height — recovery **complete by** _____ ft AGL (per your operator's minimum)
- Who taxis / handles the first simulated failure: _____ (you demonstrate the first one, then hand over)

Draw — the exercise sequence as a ladder:

1. **Simulated complete engine failure** — from cruise, in the training area or over an approved practice field
2. Immediate/vital actions → field selection → descent profile → approach → (go-around at a safe height, per your operator's minimum)
3. Repeat from varying heights and positions
4. **Simulated partial engine failure** — rough running, reduced power; decide whether to continue or divert
5. **Simulated engine start/shutdown malfunctions** — on the ground, as time permits (assessed this lesson)
6. **Simulated engine fire in flight** — as time/height permit (assessed this lesson)
7. Return to the aerodrome and land

Ask — "Who's flying each part?"

Expect — the student flies the sequence; you fly and narrate the first one, then hand over. Confirm the minimum height for solo/dual practice per your operator's procedures — this is **never** flown to an actual touchdown outside an approved area or aerodrome.

Immediate/vital actions — rehearse it now

The sequence has to be **automatic** in the air, so build it on the ground first. Walk it through and have the student say it back before you leave the room.

Draw — the sequence as steps on the board:

1. **Aviate** — trim for the **glide**, at best glide speed
2. **Checks** — the quick, fixable causes: carburettor heat on, fuel (selector, pump, change tanks), mixture rich
3. **Field** — pick the best field within reach, applying the workbook criteria (**WOSSSSET**)
4. **Communicate** — the **MAYDAY** call, made early; squawk 7700 too if fitted
5. **Prepare** — passenger brief, detailed trouble check (**CFMOST**), **BUSH FMMM** shutdown checks as height and workload allow

Ask — "What comes first — looking for a field, or trimming for the glide?"

Expect — **trim for the glide first.** A field is no use if the aeroplane isn't established at best glide speed. **Aviate, Navigate, Communicate** — in that order, every time.

Ask — "And which check is which?"

Expect — the three-item reflex (carburettor heat, fuel, mixture) in the first seconds, because it's the one thing that might give the engine back; **CFMOST**, the systematic version, later in the glide once the field is settled and there's height to spare.

Normalise the surprise — tell them plainly what a simulated failure feels like: the engine goes to idle without warning, it's quieter than expected, and the sudden silence can be startling even though you know it's coming. **That's normal.** Knowing it's coming stops the instinct to freeze. Add: *if at any point you're uncomfortable, say so — we'll pause, talk, and try again.*

The three mnemonics

All three were covered in the theory brief, so **ask for them** rather than writing them up cold — this page is here so you have the expansions to hand while the student talks.

WOSSSSET	Wind · Obstacles · Size and Shape · Slope and Surface · Shoots (clear undershoot and overshoot) · Sun and Civilisation · Elevation · Terrain
CFMOST	Carburettor heat · Fuel · Mixture · Oil temperatures and pressures · Switches (magnetos) · Throttle
BUSH FMMM	Brakes · Undercarriage · Switches (Fuel, Mixture, Magnetos, Master — master last if you still need flap) · Hatches and harnesses

The **Sun** half of that S is about where the sun will be on final; **Civilisation** is how close help is once you are down. It is the last of the S's for a reason — never trade a good surface for a shorter walk.

Check **CFMOST** and **BUSH FMMM** against the aircraft you're flying today: a type without a carburettor has no C, a fixed-gear type has nothing to do for U beyond confirming it, and the order of the switches follows the flight manual where it differs.

Threats and how we'll manage them

I'M SAFE and PAVE are standing checks before **every** flight — by now the student runs them, rather than being taught them.

Ask — "Run me through your I'M SAFE — any flags today?"

Expect — honest self-assessment. Nerves before an engine-failure lesson are normal.

Ask — "Apply PAVE to today's flight — what stands out?"

Expect — Pilot, Aircraft, enVironment, External. Listen for the **enVironment** angle — suitable fields, cloud base, and other traffic all bound where and how we practise today.

Draw — the genuine threats you and the student identify for *this* flight:

Ask — apply **TEAM** to each: "What are our options?"

- **Transfer** · **Eliminate** · **Accept** · **Mitigate**

Likely ones to surface: **misjudging the field** (mitigate — keep reassessing, be ready to change); **low-level distraction** from checks/radio/passengers (mitigate — aviate first, always); **startle on the first simulated failure** (mitigate — we rehearsed it and you know it's coming); **carrying the exercise too low** (eliminate — agree and stick to the minimum height for go-around).

Questions, then fly

Ask — "Any questions before we head out?"

Quick recap as you pack up the whiteboard:

- **Aviate, Navigate, Communicate** — trim for the glide before anything else
- Keep **reassessing** your chosen field all the way down — that's what the straight segments of the 50c pattern are for
- **MAYDAY early** — while there's still time to be heard
- A sudden, quiet engine is **normal** for this exercise — that's why we rehearsed it

Confirm who handles the taxi, and go flying.