



Open Aviation Solutions

Forced Landings – In-flight Notes

*CASA Recreational Pilot License (Aeroplane) – CASA Sample Syllabus
Lesson 17*

Language choices

"trim for the glide" – reinforces the action, not just the resulting state.

"aviate, navigate, communicate" – the standing priority order, repeated every exercise.

"MAYDAY early" – say it before you need convincing you should have.

"small turn, straight, reassess" – the 50c pattern, called the same way every time.

Demonstration-Performance

For the sequence of each activity, choose whether you use:

- Demonstration-Performance: Explain, Demonstrate, Performance and Monitor, Evaluation
- DDM: Demonstrate, Direct, Monitor

or some other preference. Each in-flight activity just describes the sequence to be demonstrated and performed, regardless of the method you use.

Before starting the plane

- Confirm the student's **weight & balance** and **fuel requirement** calculations for today's flight are complete and correct – assessed this lesson (C2.1, C4.1)
- Confirm **approved practice areas/fields** for today, and the operator's **minimum height for a go-around** from a simulated forced landing – brief this explicitly, it is never flown to an actual touchdown outside an approved area or aerodrome
- This lesson also **assesses engine start and shutdown malfunctions and emergencies** (e.g. flooded start, engine fire on start-up or shutdown) – confirm the student can talk through the correct actions before or during today's start-up

Record	Start	End
Tacho		
Maintenance		
Time		

After departing / established in the climb

- Assess the **climb** (cruise climb, then best rate climb) on transit – a revision/ assessment item this lesson (A3.1), folded into the transit rather than treated as a separate exercise
- Confirm **local area airspace** and today's **approved practice fields/areas** for the forced-landing exercises
- Brief the first simulated failure: "I'll demonstrate the first one – you watch the sequence, then it's yours."

Simulated complete engine failure – instructor demonstration

Sequence

- From cruise, in the training area or over an approved practice field: throttle to idle without warning – "Simulated engine failure"
- **Aviate** – trim for the glide at best glide speed, wings level, balance ball centred
- **Checks** – the quick, fixable causes: carburettor heat on, fuel, mixture
- **Field** – select and point out the chosen field, narrating the **WOSSESSET** criteria out loud
- **Communicate** – simulate the MAYDAY call (do not transmit unless genuinely required); point out the transponder emergency code (7700) without necessarily selecting it
- **Prepare** – narrate the passenger brief, the detailed trouble check (**CFMOST**) and the **BUSH FMMM** shutdown as height allows
- Fly the descent profile to the field using the **50c technique** – small turn, straight, reassess, all the way onto final – correcting for high/low as needed
- Go around no lower than the briefed minimum height – apply full power, established climb, retract to clean configuration as appropriate

Simulated complete engine failure – student flow

Sequence

- Repeat from varying heights and positions relative to the training area/approved fields
- Student flies the full immediate/vital actions sequence from memory: **Aviate, Navigate, Communicate**
- Prompt only if a step is missed or out of order – let the sequence run uninterrupted otherwise
- Debrief briefly after each repetition: what worked, what would you do differently?

Simulated partial engine failure

Sequence

- Reduce power to simulate rough running / partial power loss — "Simulated partial engine failure"
- Student identifies the **partial** power condition (distinct from a complete failure)
- Adjust flight controls to maximise performance for the remaining power, maintaining a safe margin above stall speed
- Formulate a plan: continue to the aerodrome, or treat it as a forced landing — bearing in mind the partial failure could become complete at any time
- Establish radio communications where possible

Simulated engine fire in flight

Sequence

- Brief this as fully simulated – "Simulated engine fire in flight", no actual actions on the mixture/fuel/master controls
- Student talks through the actions in order: mixture – idle cut-off; fuel selector – OFF; cabin heat/vents – OFF (avoids drawing smoke into the cabin); increase airspeed or sideslip away from any smoke
- With the engine now deliberately stopped, this **becomes a forced landing** – the student flies the same immediate/vital actions sequence practised above: field, MAYDAY/7700, passenger brief, shutdown
- Debrief: what's different about this scenario, compared to the earlier practice failures?

Return to aerodrome

- Establish cruise on descent back toward the aerodrome – a revision/assessment item this lesson (A3.3: cruise descent)
- **Listen to AWIS/ATIS** – runway in use, circuit direction, QNH
- Fly a normal circuit and landing
- Complete the post-flight actions and administration (C2.3) at shutdown