

SECTION 2.5 LOW-LEVEL RATING

Unit 2.5.1 LLLR: Low-level rating – all aircraft categories

1. Reserved

2. Flight rules

2.1 Legislation

- 2.1.1 Explain the privileges and limitations of a low-level rating.
- 2.1.2 Recall the provisions of 157 of CAR 1988.
- 2.1.3 State the requirements for the conduct of flights below 500 ft AGL, including pilot responsibilities.

3. Operational planning

3.1 Pre-flight and after-flight inspection

- 3.1.1 Describe the areas of the aircraft that should be inspected to ensure the safety of low-level operations.
- 3.1.2 Describe inspection and flight preparation of aircraft exposed to outside parking and harsh environmental conditions (for example, wing and control surfaces exposed to freezing conditions, engine, battery care, etc.).

3.2 Operational inspections

- 3.2.1 Explain operating area inspection methods and purpose.
- 3.2.2 Explain limitations of ground inspections.
- 3.2.3 Explain the low-flying restrictions, planning notice, precautions and procedures with respect to overflying or in close proximity to buildings during aerial application operations, including stating the required safety distances and minimum height from buildings.

4. Operations on, or in vicinity of, non-controlled and controlled aerodromes or airstrips

- 4.1.1 State restrictions and conditions on low-level operations at aerodromes with movements of regular public transport aircraft.
- 4.1.2 Explain the circuit requirements at various types of aerodromes and ALA, including conditions applying to exemption from compliance with CASA published procedures.

4.2 Aerial inspection

- 4.2.1 Explain the method and purpose (i.e. how and what are you looking for?).
- 4.2.2 Describe how to locate and plan for the management of obstructions and ground undulations from the air.

4.3 Weather

- 4.3.1 Describe the effects of inversion on low-level operations.
- 4.3.2 Describe indicators of mechanical and thermal turbulence and shifting wind and explain implications for low-level operations.
- 4.3.3 Describe winds affecting low-level flying and associated flying conditions.
- 4.3.4 Describe the effect of mountainous influence on airflow and associated flying conditions.
- 4.3.5 Describe weather phenomena hazardous to low-level operations.
- 4.3.6 Recall the terrain and weather conditions that may lead to disorientation during low-level flight (for example, flight into rising ground and toward low ground, false horizons, ridgeline and valley effects) and explain pilot corrective action.

- 4.3.7 Explain typical terrain and seasonal effects on local wind direction, strength and mechanical or thermal turbulence.

4.4 Planning and risk control

- 4.4.1 Describe the process of conducting a risk assessment, including the following:
- (a) identifying potential hazards or risk;
 - (b) describing what a risk assessment matrix is, and how to use it;
 - (c) assessing risk — probability versus severity;
 - (d) assigning priority to identified risk.
- 4.4.2 Describing risk management, including:
- (a) using risk management hierarchy such as eliminating risk, substituting for a smaller risk, engineering and administering around risk;
 - (b) consideration of typical changing weather conditions that require monitoring, for example, wind direction and speed and estimating their magnitude and direction, inversions and changing atmospheric stability; position of the sun and the danger of its glare, and importance of maintaining a clean, clear and serviceable windscreen.

5. Flight – low level

5.1 Operational techniques

- 5.1.1 For the area of operations, describe the methods of managing the following given factors:
- (a) wind direction;
 - (b) sun glare;
 - (c) obstructions, particularly wires and powerlines.
- 5.1.2 Describe hazards associated with low-level operations, such as hilly terrain, downdraughts, turbulence, false horizon effect, high country and irregular areas.
- 5.1.3 Explain precautionary actions before starting a clean-up.
- 5.1.4 Explain how to identify wire runs, and minimise associated risks, with the following:
- (a) preliminary inspection of treatment area;
 - (b) how to judge distance to the wire;
 - (c) the danger and forms of distraction;
 - (d) considerations for flying above or under the wire;
 - (e) considerations for crossing oblique wires;
 - (f) visual cues of wire locations such as pole runs, type, numbers and attitude of;
 - (g) insulators, cross-stress and angle of cross-stress, supplementary or spur wires buildings;
 - (h) characteristics and dangers of high wires and guy wires;
 - (i) factors affecting misjudgment of wire clearance;
 - (j) how to maintain awareness of located wires;
 - (k) the hazards of mental overload.
- 5.1.5 Describe the operation of DGNS for track guidance, including the importance of maintaining an active scan outside the cockpit while referencing the DGNS.

6. Human factors

- 6.1.1 Demonstrate knowledge of the following human factors issues and their impact on the safety of an aerial application operation.
- 6.1.2 Dehydration and its impact on pilot cognitive function and reaction time.
- 6.1.3 Fatigue and its impact on pilot cognitive function and situational awareness.
- 6.1.4 Stress and its short-term and long-term impact.
- 6.1.5 Drugs (particularly OTC) impact on pilot cognitive function, reaction time and coordination.

6.1.6 Spatial disorientation and illusions.