CIVIL AVIATION AUTHORITY
OF NEW ZEALAND
Te Mana Rererangi Tūmatanui o Aotearoa

Advisory Circular
AC101-1

Revision 2

XX XXXX 2026

Remotely Piloted Aircraft Systems (RPAS)– Operating in compliance with Part 101 Rules

General

Civil Aviation Authority (CAA) Advisory Circulars (ACs) contain information about standards, practices, and procedures that the Director has found to be **an acceptable means of compliance** with the associated rule.

Consideration will be given to other methods of compliance that may be presented to the Director. When new standards, practices, or procedures are found to be acceptable they will be added to the appropriate AC.

Purpose

This AC describes an acceptable means of compliance when operating small remotely piloted aircraft systems (RPAS) that weigh less than 25 kilograms and fly in accordance with Civil Aviation Rule Part 101 and Civil Aviation Transport Instrument 101-1 (CATI:101-1).

It should be read in conjunction with AC102-1, *Unmanned Aircraft, Operator Certification*, so operators can understand the difference between an RPAS operation under Part 101, and an operation that is more suitable for certification under Part 102.

Related Rules

This AC relates to Civil Aviation Rule Part 101 - *Gyrogliders and Parasails, Unmanned Aircraft (including Balloons), Kites, and Rockets - Operating Rules*.

Change Notice

Revision 2 is a substantive update which revises content throughout and removes obsolete content.

This revision also:

- directs participants to CATI: 101-1 for the applicable rules in Subpart E
- makes stylistic and formatting changes in line with current AC style and adds a Version History.

Published by
Civil Aviation Authority
PO Box 3555
Wellington 6140

Authorised by
General Manager, Strategy, Policy and International Engagement

Version History

History Log

Revision No.	Effective Date	Summary of Changes
AC101, Rev 0	27 July 2015	Initial issue
AC101, Rev 1	24 September 2015	Corrected and clarified some airspace inconsistences.
AC101, Rev 2	XX XXXX 2026	Updates content throughout and removes obsolete and repeated content. Directs participants to CATI 101-1 for the applicable rules in Subpart E Makes stylistic and formatting changes in line with current AC style. Adds a Version History.

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Section 1: Introduction

1. Part 101 applies to both recreational and commercial users, so a wide range of commercial activities can be conducted without any interaction with CAA. CAA's approach allows commercial operations to take place without certification, as long as the operators remain compliant with the restrictions set out in Part 101 and Civil Aviation Transport Instrument 101-1 (CATI:101-1).

2. Part 101 only applies to RPAS weighing less than 25kg and operations that are allowed under Part 101. Any operations conducted outside of this scope must be conducted under Part 102, which requires a certificate.

3. There is more information about applying for a Part 102 certification in AC102-1, *Unmanned Aircraft Operator Certification*, and on CAA's website at https://www.aviation.govt.nz/drones/part-102-certification-for-drones/ .

4. Intending RPAS operators should familiarise themselves with the guidance in this AC and on the CAA website.

Section 2: Abbreviations

AC	advisory circular
AGL	above ground level
AIP	Aeronautical Information Publication
AIS	Aeronautical information service
ATC	air traffic control
BVLOS	Beyond visual line of sight
DG	dangerous goods
DOC	Department of Conservation
LiPo battery	lithium polymer battery
MFNZ	Model Flying New Zealand
RPA	remotely piloted aircraft
RPAS	remotely piloted aircraft system
UA	unmanned aircraft
UAS	unmanned aircraft system(s)
VNC	Visual Navigation Charts

Section 3: Definitions

5. While some definitions used in this AC are standard definitions from Part 1, *Definitions and Abbreviations,* they have been listed here for convenience.

6. If a term is defined in both Part 1 and 101, for example, **Aerodrome**, the Part 101 definition applies.

Term	Definition
Aerodrome	An aerodrome that is promulgated in the current AIPNZ
NOTAM	A notice filed with an aviation authority to alert aircraft pilots of potential hazards along a flight route or at a location that could affect the safety of the flight
Remotely piloted aircraft (RPA)	An unmanned aircraft that is piloted from a remote station and: (1) includes radio-controlled model aircraft, but (2) does not include control line model aircraft or a free flight model aircraft**.**
Remotely piloted aircraft system (RPAS)	A remotely piloted aircraft and: • its associated remote pilot station or stations, the required command and control links, and • any other components required to operate the system.
Shielded operation	An operation of a remotely piloted aircraft within 100 metres horizontally of a natural or man-made object, and no more than 33 feet (10m) above the top of the object.
Unmanned aircraft (UA)	An aircraft designed to operate with no pilot on board and includes unmanned balloons, kites, control-line model aircraft, free flight model aircraft and remotely piloted aircraft ***Note:*** *The term "Uncrewed" is sometimes used rather than "Unmanned" when referring to UAs.*
Unmanned aircraft system (UAS)	An unmanned aircraft and its associated elements which are operated with no pilot on board.

Section 4: The basic framework of Part 101

How Part 101 works

7. Part 101 *Gyrogliders and Parasails, Unmanned Aircraft (including Balloons), Kites and Rockets – Operating Rules* prescribes rules for the operation of:

- remotely piloted aircraft, control line model, and free flight model aircraft,
- moored balloons and kites
- free balloons
- rockets, and
- gyrogliders and parasails.

8. Subpart E of Part 101 specifically prescribes rules on operations using unmanned aircraft, control line model aircraft, and free flight model aircraft. This applies to both commercial and recreational operations.

9. In 2025, Part 101 was amended to introduce CATI: 101-1, which supplements Subpart E of Part 101. More information on transport instruments can be found on the CAA webpage at this link: https://www.aviation.govt.nz/rules/transport-instruments/

10. Most rules within Subpart E now refer directly to CATI: 101-1, which prescribes the technical requirements that must be met before an operation takes place.

11. A transport instrument is secondary legislation. Once created, transport instruments form part of the rule that provides for them. This means that a breach of CATI: 101-1 is a breach of the corresponding section of Part 101, and offences and penalties may be imposed as set out in relevant Regulations.

What can and can't be done under Part 101

12. To operate an RPA without CAA approval operators must comply with the Part 101 rules. If they are unable to follow the rules outlined below operators must apply for a Part 102 certification.

13. The table below does not substitute for a full reading of Part 101. Operators should conduct a thorough assessment of their operations and ensure they understand the rules that apply to the operation to determine whether to operate under Part 101 or 102.

Under Part 101 Operators must:	**Under Part 101 Operators must not:**
• Operate an aircraft under 25kg (and ensure any additional requirements are followed for those aircraft between 15 and 25kg). • Ensure the aircraft is always safe to operate and is well-maintained. • Take all practicable steps to minimise hazards to people, property and other aircraft that could be affected by the operation. • Only fly during daylight, unless conducting a night operation in accordance with CATI: 101-1. • Give way to all manned aircraft. • Land aircraft immediately if another manned aircraft approaches. • Get consent before flying over people and property. • Check for any airspace restrictions in the area where they plan to operate. • When flying in controlled airspace, obtain an air traffic control (ATC) clearance issued by the Airways Corporation of New Zealand, unless the operation is a shielded operation. • Be able to always see their RPA with their own eyes, unless flying using first person view (FPV) systems or conducting a Beyond visual line of sight (BVLOS) operation in accordance with CATI: 101-1.	• Fly in restricted airspace or military operating areas without the permission of the administering authority. • Carry out aerial topdressing, aerial spraying, or dispersal of vertebrate toxic agents. • Fly the aircraft behind objects or through or above fog and cloud. • Fly higher than 120 metres (400 ft) above ground level (unless in accordance with conditions specified in section 2.5 of CATI: 101-1). • Fly within 4km of the boundary of any aerodrome (unless in accordance with the conditions specified in section 2.3 of CATI: 101-1). • Fly in low-flying zones. • Fly multiple aircraft at the same time at night.

What approvals are needed to fly an RPA

14. Operators cannot build or fly an RPA weighing between 15kg and 25kg without prior approval. The RPA must be:

- built or checked and approved by someone authorised for this purpose; and
- operated under the authority of that same approved person or organisation.

See the section on Approved person or organisation for more information.

Registration, qualifications and training

15. Operators under Part 101 do not require a pilot qualification, unless an unshielded operation takes place within 4km of an aerodrome boundary. See flying unshielded near aerodromes for more information.

16. If conducting an unshielded night operation, operators are required to undertake a training course acceptable to the Director. See flying at night for further information.

17. Training is recommended for people new to RPAS, as it can help RPAS operators fly their RPAs safely and with due consideration for other airspace users. A list of approved training providers is available on the CAA's website at:

https://www.aviation.govt.nz/drones/training-to-fly-unmanned-aircraft/

18. RPAs operating under Part 101 are not required to comply with Part 47 registration requirements.

Approved person or organisation

19. These are persons or organisations who have been approved by the Director to perform the following:

- issue a pilot qualification for operating RPAS
- appoint persons to give instruction to operators of RPAS
- authorise a person to notify the aeronautical information service (AIS) provider, for the issue of a NOTAM of RPAS operations
- authorise the construction or modification of RPAs greater than 15kg
- inspect and approve the construction of an RPA greater than 15kg, or
- authorise the operation of an RPA greater than 15kg.

20. Any application to perform one of these functions will be assessed on its merits by the Director.

21. Most people operating under Part 101 do not need to be an approved person or organisation. However, some operators will need to contact an approved person or organisation before some types of operations take place. For more information on how to become an approved person or organisation, please contact certification@caa.govt.nz

Section 5: Before flying RPAs

22. There are several things that an operator should do before starting their operation. These include, but are not limited to:

- Understanding maps and visual navigation charts (VNCs)
- Identifying any hazards or risks that may be present during an operation and taking all practicable steps to minimise them
- Knowing where RPAs can and can't be flown
- Understanding what kind of consent needs to be obtained if they intend to fly over people or property.

Maps and other information

23. Visual Navigation Charts (VNCs), which show the boundaries of permanent uncontrolled, controlled, and special use airspace, can be purchased from the Aeronautical Information Shop.

24. Digital, up-to-date maps can be viewed at Flight Advisor. However, VNC maps do not show temporary airspace. To find this out, check NOTAMs and for AIP supplements at AIP New Zealand.

Hazard and risk minimisation

25. Operators must minimise hazards to persons, property and other aircraft. Even if an operator complies with all rules, they are still obliged to ensure that they do not operate their aircraft in a hazardous manner. This means operators need to plan their flights and ensure that they consider the various hazards that exist or could arise during their flight.

26. Appendix 1 lists things that could be hazardous for an operation under Part 101.

27. In some cases, it will not be possible to minimise the hazard to a point where it is safe to fly. For example, operating over crowds or gatherings of people who have given consent to the operation could still be hazardous if there is limited ability to land the aircraft safely in the event of a system failure.

28. Operators should also consider engaging with any affected persons or organisation when planning operations, to minimise any disruptions or misunderstanding.

29. Not adhering to the rules will always be considered hazardous.

Where RPAs cannot fly

30. There are certain areas where RPAs cannot fly or can only fly in if certain conditions are met. These are:

- restricted airspace, where RPAs cannot fly without consent from the restricted airspace administering authority
- areas controlled by the military, where RPAs cannot fly without consent from the administering authority – usually a military organisation
- Low flying zones, where RPAs cannot fly under any circumstances
- Danger areas designated under Part 71, where RPAs cannot fly unless the operator can establish that it is safe to do so without harm

31. More detail can be found on the CAA website: Check the airspace before you fly | aviation.govt.nz

Flying over people and property

32. If an operator plans to fly over other people or property, they must obtain consent before doing so. The below table provides guidance on obtaining consent for different operation types:

Operation type	**Guidance on obtaining consent**
Flying over people	An operator must obtain explicit consent from any person that an RPA operation will take place over, including in public spaces (such as a park). Either verbal or written consent is sufficient. Even if a person, or group of people, consents to an operation occurring, it remains the responsibility of the operator to ensure that the operation is not hazardous.
Flying over private property	The rule requires operators not to fly in airspace above property unless they have obtained the consent of the property owner or occupier (such as a tenant). By obtaining consent from a property owner, the operator is far more likely to be aware of the safety hazards in the area, as the property owner or occupier is best placed to advise of potential hazards, and people who may be affected by the flight. The process of obtaining consent will also enable the operator to discuss what is and what is not appropriate regarding RPAS with the property owner or occupier. The consent itself could take multiple forms, such as informally (verbal or written), or more formally (contractual). This will depend on the situation and the requirements of the landowner, the people involved and, potentially, the commercial imperatives of the operator. Initial consent may allow for ongoing operations if the parties agree. It is also expected that people will be able to give consent on behalf of other people at a property. For example, a homeowner or tenant could speak on behalf of other people present at the house.
Flying over public land and spaces	Any operator wanting to know where they can fly on public land is advised to contact their local government authority. It is important to note that civil aviation rules do not overrule any local government policies or bylaws regarding use of RPAS or other policies on the use of public land. Local authorities and the Department of Conservation (DOC) are best placed to understand the specific risks associated with RPAS use in their territory. They are therefore best placed to engage with operators and provide the necessary consent.

Section 6: During an RPA operation

33. There are various rules that must be followed when you are operating under Part 101. Some rules are specific to operation type, and some must be followed regardless of operation type. The following section outlines an acceptable means of compliance with these rules:

Right of way

34. Anyone operating an RPA is required to give way and always remain clear of any manned aircraft, including any manned aircraft on the ground.

35. If there is a risk that an RPA will get too close to a manned aircraft, operators must immediately stop their operation and either land their drone safely or fly it to a location where it poses absolutely no risk to the manned aircraft.

36. Right of way rules apply to all RPAS operations under Part 101 and must be followed at all times.

Flying in controlled airspace

37. RPA operators must have an authorisation from the ATC unit responsible for the relevant airspace before operating in controlled airspace. Operators should contact the ATC unit concerned and discuss the proposed operation before operating. The AirShare website at https://www.airshare.co.nz/ is the preferred way to apply for one-off entry to controlled airspace.

38. Contact details for aerodrome operators and ATC units, as well as for other airspace, are also available on AirShare.

39. RPA operators must also comply with the conditions and requirements of flying in controlled airspace in CATI: 101-1. This includes ensuring that right of way rules are followed in controlled airspace.

40. ***Note:*** *AirShare approval is granted for the airspace only. All other Part 101 rules must also be complied with, so operators may need to obtain additional permissions before starting their operation.*

41. In some case, flights in controlled airspace can take place without needing to meet the above conditions, if an operation is shielded (see Shielded operations).

Flying unshielded near aerodromes

42. The below tables detail the various requirements that should be met when flying unshielded near aerodromes.

43. Some aerodromes, even if they are uncontrolled, may be within controlled airspace which requires an additional layer of ATC approval. See flying in controlled airspace for more information.

44. When obtaining agreement from either the aerodrome operator or ATC unit, as much notice as possible should be given, otherwise permission to fly may be declined.

45. Operators should be aware that authorisation from the ATC unit only permits operation within 4km of an aerodrome boundary – it does not confirm compliance with

any other Part 101 rules. Operators are responsible for ensuring they are in compliance with other Part 101 rules before their operation takes place.

Flying an RPA **without** a licence, qualification or qualified supervisor (see note).

Flying near a…	**In controlled airspace?**	**What are the rules?**
Uncontrolled aerodrome	No	• **No closer than 4km** from the aerodrome boundary.
Uncontrolled aerodrome	Yes	• **No closer than 4km** from the aerodrome boundary. • **ATC approval** required to enter controlled airspace.
Controlled aerodrome	Yes	• **No closer than 4km** from the aerodrome boundary. • **ATC approval** required to enter controlled airspace.

Flying an RPA **with** a licence, qualification or qualified supervisor (see note).

Flying near a…	**In controlled airspace?**	**What are the rules?**
Uncontrolled aerodrome	No	• **Aerodrome operator approval** required within 4km of the aerodrome boundary. • Pilot must have an **observer** in attendance to provide additional situational awareness.
Uncontrolled aerodrome	Yes	• **Aerodrome operator approval** required within 4km of the aerodrome boundary. • **ATC approval** required to enter controlled airspace. • Pilot must have an **observer** in attendance to provide additional situational awareness.
Controlled aerodrome	Yes	• **Aerodrome operator approval** required within 4km of the aerodrome boundary. • **ATC approval** required to enter controlled airspace.

Note : A valid qualification for a pilot or supervisor must be issued by an approved person or organisation under Rule 101.202. A valid pilot licence must be issued under Part 61 or Part 149.

Flying a free flight model aircraft.

Flying near a…	**In controlled airspace?**	**What are the rules?**
Uncontrolled aerodrome	No	• **Aerodrome operator approval** required within 4km of the aerodrome boundary, and • The aircraft is **launched downwind** of the active runway.
Uncontrolled aerodrome	Yes	• **ATC approval** required to enter controlled airspace. • **Aerodrome operator approval** required within 4km of the aerodrome boundary, and • The aircraft is **launched downwind** of the active runway.
Controlled aerodrome	Yes	• **Aerodrome operator approval** required within 4km of the aerodrome boundary. • **ATC approval** required to enter controlled airspace.

Beyond Visual Line of Sight operations (BVLOS)

46. RPAs can be operated BVLOS of the pilot if the flight takes place in an enclosed area which prevents the aircraft from being able to fly outside of the enclosed area. For example, if an operator wanted to inspect the inside of a tank that cannot be easily accessed, they can do so without requiring Part 102 certification.

47. Operators must also ensure that there are appropriate safety controls in place to ensure the operation doesn't become unsafe or hazardous, for example, if another person were to enter the enclosed area.

Flying at night

48. Part 101 allows for some low-risk unshielded operations to take place at night. There are four requirements that must be met before these operations can occur:

a) **Training**: Pilots who intend to operate at night must have passed a training course conducted by a Part 141 training organisation or an approved person or organisation under rule 101.202.

b) **Currency**: Pilots operating at night must remain current and proficient. If a pilot has not flown in the previous 90 days before conducting a night operation, they will first need to practice at night by flying for 30 minutes in a shielded environment.

c) **Lighting***:* Pilots must maintain visual line of sight of their aircraft at night. To do this, they must ensure their aircraft has adequate lighting so they can maintain proper control and determine the orientation of the aircraft.

- Lighting for these purposes can be basic – a simple example would be different coloured glow sticks on each side of the aircraft to differentiate left and right sides. The lighting must be always securely fixed to the aircraft during a night operation. There are no specific colours required to use for lighting.

- A strobe light is not suitable for this purpose, as it does not assist pilots to see the aircraft's orientation. A strobe may make this harder for the pilot.

- Lighting on an aircraft is <u>not</u> for collision avoidance or so other aircraft can see. It is always the drone operator's responsibility to remain clear of all other aircraft.

d) **Single aircraft**: When operating at night, only one aircraft can be operated by a pilot at any one time.

Shielded operations

49. A shielded operation allows an operator to fly an RPA near a vertical object with reduced risk to other aviation participants. Examples of vertical objects for shielded operations include trees, buildings, pylons etc.

50. The objects (shields) mitigate some of the potential risks posed by RPAS to other aviation participants, as general aviation participants are unlikely to be operating that close to an object.

51. Shielded operations allows an operator to fly an RPA close to an object (within 100 metres) and not higher than 10 metres (about 33 feet) above the top of the object.

52. Shielded operations need to be considered in two situations:

a) **Controlled airspace:** operations within controlled airspace can be carried out without prior authorisation from ATC, if the entire operation is shielded.

b) **Within 4km of aerodromes**: RPAs may be operated within 4km of an aerodrome (but outside its boundary) without needing to meet other qualification, approval and supervision requirements if the operation meets two criteria:

- The operation meets the distance and height criteria stated above, and
- There is another barrier between the RPA and the aerodrome, which is higher than the RPA and could stop the RPA from flying towards the aerodrome in the event of a fly-away or some other technical error.

Dropping of articles

53. Operators can drop items from their RPA, including liquids, as long as this does not put people or property at risk. They can also drop a payload.

54. Aerial spraying, topdressing, or dispersal of an aerial vertebrate toxic agent is not permitted. A Part 102 certificate is required to conduct these operations.

Operating over 400ft

55. In some cases, operations can take place over 400 feet above ground level (400ft AGL). They must be done in one of two ways:

a) **Operating in a danger area**: an operation over 400ft AGL must take place in a danger area that is designated for that purpose under Part 71.

b) **Operating in Class G airspace with a NOTAM:** if operating in Class G airspace over 400ft AGL, operators must ensure that:

- The operation is conducted more than 4km from an aerodrome boundary, and
- The operation remains in Class G airspace at all times, and
- A person authorised by an approved person or organisation under Rule 101.202 notifies the AIS for the issue of a NOTAM at least 24 hours before the operation.

Section 7: Airworthiness

56. Because no standards are prescribed in Part 101, operators will need to be satisfied that their aircraft is:

- fit for purpose for the intended use, and
- of a suitable manufacturing standard, and
- assembled, constructed and maintained in accordance with the manufacturer's manual or instruction, and
- can be operated in accordance with the manufacturer's manual or instruction and within any limitations, and
- checked for faults and defects before flight.

57. To minimise hazards, it is best practice to operate an RPAS in compliance with the operating handbooks provided by the manufacturer, if available.

58. The manufacturer's guidelines relating to maintenance should also be closely followed. Pre-flight and post-flight inspections contained in manufacturers' handbooks should always be followed thoroughly.

59. Operators should also consider:

- establishing and implementing battery maintenance and testing programmes, especially for lithium polymer (LiPo) batteries, including safe charging and disposal methods and
- for fixed-wing and helicopter RPAS, setting service retirement lives based on the manufacturer's' recommendations or operating history.

60. *Note: LiPo batteries may be regarded as dangerous goods (DG) if carried as cargo. When connected as per manufacturer design to power the craft, however, they are not considered DG under Part 92. Operators who intend to carry LiPo batteries other than the one(s) powering the immediate flight (i.e. carried as cargo) or other DG should refer to AC92-4, Dangerous Goods Manuals, or if still unsure, contact CAA before operating.*

61. Intending RPAS operators should also be aware that:

- commercially produced multi-rotors in the 15-25 kg weight bracket should only be considered for purchase once they have been inspected and approved by an approved person or organisation (in accordance with rule 101.215)
- multi-rotor machines that are manufactured with optional rotor guards should be purchased with the guards. These should remain fitted at all times when the aircraft has any chance of approaching people, and
- the construction, modification, inspection and operation of larger RPAS (15-25 kg), to be operated under Part 101, is subject to the requirements of oversight by an approved person or organisation as defined in rule 101.202, *Approved person or organisation.*

Appendix 1: Possible hazards for operations

Note: This list is non-exhaustive. Hazards should be assessed and mitigated on a case-by-case basis for every operation.

Things that could be considered hazardous include flights:

(a) over gatherings of people or close to crowds, irrespective of whether or not those people have given permission for the flight to be conducted over them, and

(b) near/over stock or wildlife, including marine mammals

(c) over property, including buildings, structures, installations and vehicles where people may be present and could be harmed in the case of power, command and control, or propulsion failure, and

(d) over roads or highways or other areas, and

(e) in inappropriate weather or visibility conditions that could lead to loss of control, and

(f) when the aircraft is not airworthy or correctly maintained or correctly configured (e.g., batteries not fully charged, firmware not updated, range check not carried out, and/or pre-flight check including establishing “return to home” set up not done), and

(g) when the pilot or operator is operating when not fit to do so, either because of impairment, fatigue or as a result of a physical or mental health condition, and

(h) in areas where the radio spectrum is in the 2.4 GHz range, and is known to be unreliable (e.g., some areas near the waterfront in Auckland and other areas of Christchurch).