



Australian Government
Civil Aviation Safety Authority

KEY PERSONNEL GUIDE REOC MAINTENANCE CONTROLLER (MC)



WHO THIS GUIDE IS FOR:

- Maintenance controller (MC) of remotely piloted aircraft system (RPAS) organisations
- Remotely piloted aircraft operator's certificate (ReOC) holders and applicants
- Personnel seeking nomination as an MC
- Senior managers overseeing RPA operations
- Personnel responsible for nominating the MC

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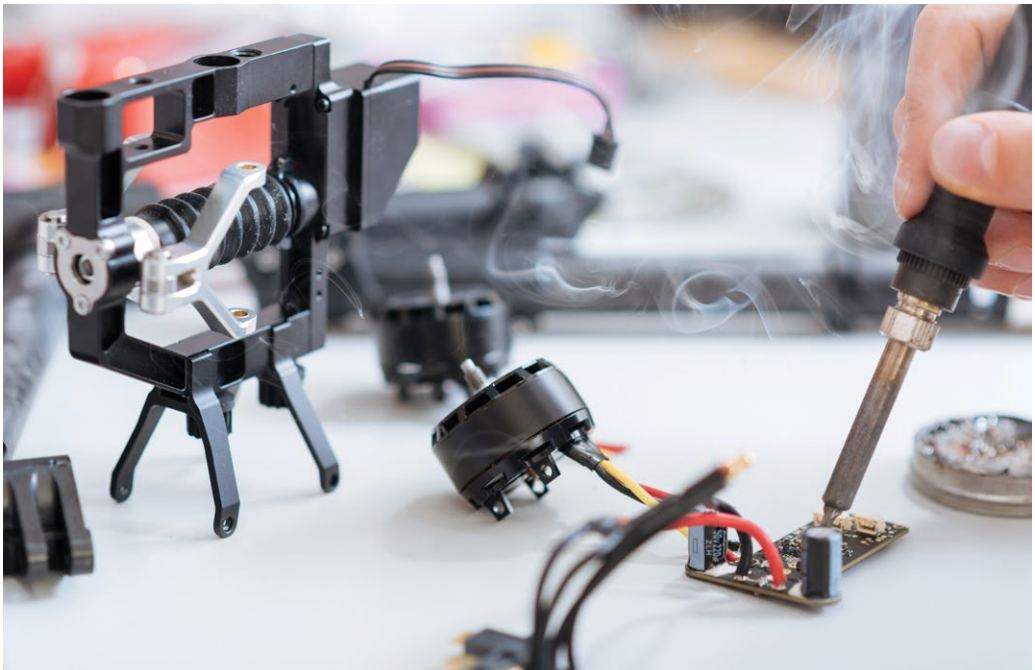


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INTRODUCTION

Every remotely piloted aircraft system (RPAS) operator has a responsibility to conduct safe operations. Safe operations rely on remotely piloted aircraft (RPA) being maintained in a condition for safe operation. Effective maintenance and suitable maintenance procedures are essential for this.

Under CASR Part 101, a ReOC holder must have a maintenance controller (MC). The ReOC holder must either maintain an MC position within its organisation or have an arrangement with another qualified and competent person to carry out those functions and duties.

The MC oversees all maintenance activities and records for the operator's RPA operations.

The level of maintenance oversight, documentation and technical support should reflect the size, complexity and risk of the operation.

This guide explains our expectations for the responsibilities, authority and oversight of an MC. It should be read with the organisation's documented practices and procedures, ReOC conditions, Civil Aviation Safety Regulations 1998 (CASR) Part 101 and the Part 101 Manual of Standards (MOS).

Reference regulation 101.340 of CASR and AC 101-05.

THE ROLE

The maintenance controller (MC) must ensure:

- maintenance activities comply with aviation legislation
- maintenance follows the approved documented practices and procedures
- RPA are maintained in a condition for safe operation
- maintenance records remain complete and current
- defects are identified, recorded and managed appropriately
- maintenance activities follow manufacturer instructions and operational requirements
- appropriate system testing is completed before returning an RPA to operational use.

The MC should maintain familiarity with the RPA, systems and maintenance activities used by the operator.

Depending on the size and complexity of the operation, the MC may also perform maintenance activities or other operational duties. In smaller organisations or sole traders, one person may hold several responsibilities.

Where one person holds several roles, the operator should consider whether the person has enough time, technical knowledge and support to perform each role effectively.

Other qualified personnel may perform maintenance tasks. However, responsibility for maintenance oversight remains with the person performing the MC functions under the operator's approved arrangement.

The organisation must clearly define the MC responsibilities, authority and reporting lines in its documented practices and procedures.

We may review maintenance arrangements, management structures and nominated personnel during ReOC application, variation and oversight activities.

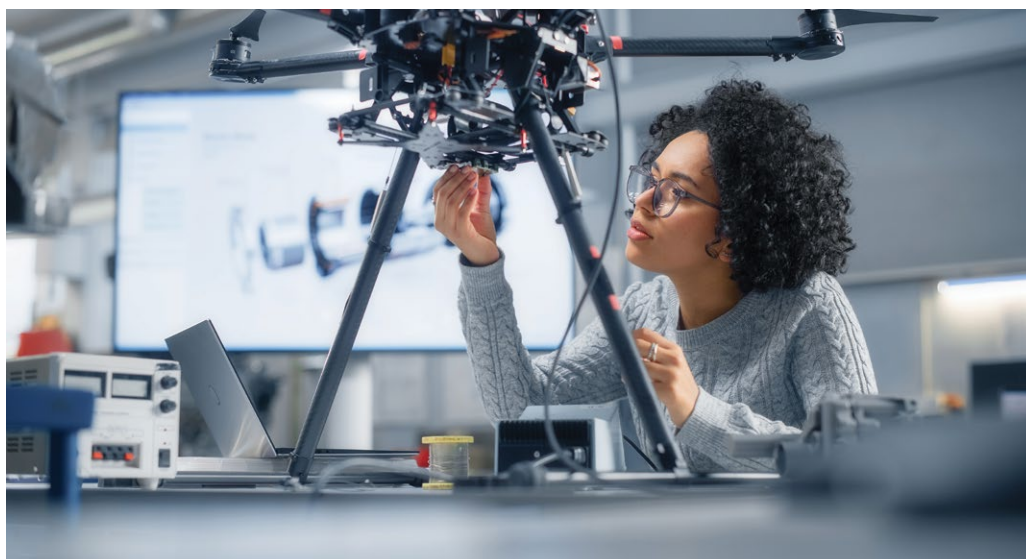


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QUALIFICATIONS AND EXPERIENCE

The MC must be competent to perform the functions of the role. They must have enough technical knowledge and experience for the size, complexity and risk of the operation.

This includes understanding:

- CASR Part 101
- the Part 101 MOS
- the organisation's documented practices and procedures
- the RPA and systems used by the operator
- maintenance procedures and schedules
- manufacturer instructions and limitations
- defect reporting and rectification procedures
- maintenance records and technical documentation.

The MC should have knowledge and experience relevant to the operator's RPA and activities. This may include:

- different RPA categories and types
- operations involving RPA above 25 kg
- power source management and charging or refuelling systems
- software or firmware updates
- payloads or RPA modifications
- specialised or higher-risk operations conducted under CASA approval.

Additional qualifications, training or manufacturer approvals may be required for some RPA or maintenance activities.

The MC should also demonstrate:

- sound technical judgement
- attention to detail
- effective communication skills
- the ability to manage maintenance risks.

Reference regulation 101.340 of CASR and AC 101-05.



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ONGOING QUALIFICATIONS AND EXPERIENCE

The MC must maintain enough technical knowledge to perform the role effectively. This includes remaining familiar with:

- changes to legislation and approvals
- changes to the ReOC conditions and documented practices and procedures
- maintenance procedures and schedules
- aircraft systems and software
- manufacturer instructions
- maintenance records and technical documentation
- maintenance risks and controls.

The MC should maintain regular contact with operational personnel and personnel performing maintenance activities.

They should keep up to date with maintenance activities, defect reports, serviceability issues, software or firmware updates, operational changes and emerging risks.

Reference AC 101-05.

RESPONSIBILITIES

The MC must:

- ensure maintenance activities comply with aviation legislation
- ensure RPA are maintained in a condition for safe operation
- maintain maintenance records for the operator's RPA
- investigate all defects.

Reference regulation 101.340 of CASR and AC 101-05.

Maintenance oversight

The MC must ensure maintenance activities comply with aviation legislation. This includes checking that:

- maintenance follows the approved documented practices and procedures
- maintenance follows manufacturer instructions where required
- defects are assessed and managed appropriately
- RPA are maintained in a condition for safe operation
- maintenance records are complete and current
- maintenance activities follow approved procedures and controls.

Reference AC 101-05.

Maintenance records

The MC must maintain current maintenance records and technical documents required for the operator's RPA operations. This may include:

- maintenance records
- inspection records
- defect and rectification records
- maintenance schedules
- manufacturer manuals and instructions
- software or firmware records
- maintenance procedures
- service bulletins or technical notices.

The MC must ensure maintenance documents remain current and available to personnel performing maintenance activities.

Reference AC 101-05.



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RPA condition and defects

The MC must ensure defects are identified, recorded, investigated and managed appropriately before flight operations occur.

This includes monitoring scheduled RPAS maintenance, defect reporting and rectification, inspections and serviceability checks, software or firmware updates, battery condition and management, and RPA modifications or software changes.

Maintenance changes

The MC may support maintenance-related operational changes. This may include:

- introducing new RPA types
- introducing RPA above 25 kg
- introducing modified RPA or payloads
- introducing new maintenance procedures
- software or firmware changes
- maintenance arrangements for specialised operations.

The MC should help ensure:

- maintenance procedures support the proposed operation
- maintenance risks and controls are identified
- technical documents remain current
- personnel understand any new maintenance procedures or limitations.

Some changes may require a ReOC variation or CASA approval before operation.

Reference Part 101 MOS.

Engagement with CASA

The MC supports CASA oversight of the operator's RPA maintenance activities. This may include:

- supporting ReOC application, renewal or variation processes
- supporting CASA inspections or reviews
- providing information about maintenance procedures
- supporting significant change applications
- helping ensure we receive required applications or notifications.

THE APPOINTMENT

A ReOC holder must ensure the maintenance controller functions are carried out either by an in-house maintenance controller or by another qualified and competent person under an approved arrangement.

The operator must ensure the nominated MC is competent to perform the functions of the role.

The organisation must clearly define the MC responsibilities, authority and reporting lines in its documented practices and procedures.

Before acting in the role, the MC must understand:

- the ReOC conditions
- the documented practices and procedures
- the RPA and systems used
- maintenance procedures and schedules
- maintenance records and technical documentation
- defect reporting and rectification processes
- operational limitations and maintenance controls.

We may review the suitability of a nominated MC during ReOC application, variation and oversight activities.

Reference regulation 101.340 of CASR.

THE INTERVIEW

We may discuss the nominated MC role and maintenance arrangements during ReOC application, variation or oversight activities.

This may include discussion about:

- the organisation's maintenance procedures
- maintenance records and documentation
- aircraft systems and maintenance requirements
- defect reporting and rectification processes
- manufacturer instructions and limitations.

Depending on the operation, we may also review whether the nominated MC:

- has knowledge and experience suited to the operator's RPA and activities
- understands the organisation's maintenance procedures and controls
- can maintain required maintenance records and documents.

Reference AC 101-05.

COMMON RISKS AND CHALLENGES

Many RPAS operations continue to evolve in scale, RPA capability and operational complexity. This can create challenges for maintenance oversight, technical record keeping and procedural consistency.

Effective maintenance oversight helps ensure RPA remain in a condition for safe operation and maintenance activities continue to align with operational requirements and approved procedures.

Areas requiring ongoing attention may include:

- maintaining complete and current maintenance records
- supporting effective defect reporting and rectification
- ensuring maintenance procedures remain suitable for the RPA and operation
- managing software or firmware changes appropriately
- maintaining effective power source management practices
- keeping maintenance responsibilities and processes clear
- ensuring maintenance activities follow approved procedures
- maintaining oversight across several locations or operational teams
- keeping RPA modifications and technical records current.

The MC plays an important role in identifying maintenance risks early and maintaining appropriate oversight, records, procedures and communication as operations evolve.

RELATED GUIDANCE

- Civil Aviation Safety Regulations 1998 (CASR) Part 101
- Part 101 Manual of Standards (MOS)
- Advisory Circular 101-01: Remotely piloted aircraft systems licensing and operations
- Advisory Circular 101-05: Functions and duties of RPAS maintenance controllers
- ReOC initial issue, variation and renewal guidance
- ReOC significant and non-significant change guidance
- RPAS sample operations manual
- Guide to the RPAS sample operations manual
- Manufacturer maintenance instructions and technical manuals.



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