



ANNEX TO PRINCIPLE (DEL.08)

Annex C - CAR 42R - Changes to a system of maintenance

December 2024



Acknowledgement of Country

The Civil Aviation Safety Authority (CASA) respectfully acknowledges the Traditional Custodians of the lands on which our offices are located and the places to which we travel for work. We also acknowledge the Traditional Custodians' continuing connection to land, water and community. We pay our respects to Elders, past and present.

Artwork: James Baban.

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Contents

1. CAR 42R - Changes to a system of maintenance	4
1.1 Purpose	4
1.2 Scope	4
1.3 Qualifications	4
1.4 Knowledge	5
1.5 Competence	5
1.6 Maintenance Steering Group-3 (MSG-3) principles	5
1.7 Reliability program	6
1.8 Extended diversion time operations (EDTO)	6
1.9 Reduced vertical separation minima (RVSM)	6
1.10 Required navigation performance (RNP)	6
1.11 Low visibility operations	6
1.12 Experience	7
1.13 Mentoring	7
1.14 Procedures manual - Specific criteria	7
1.14.1 Reporting	7
1.14.2 Application procedures	8
1.14.3 SOM – Formatting	8
1.14.4 SOM – Assessment	8
1.14.5 Approval	9
1.14.6 IOA specific forms	9
1.15 Conduct Surveillance on IOAs	9
1.15.1 Condition – Individual conditions, scope and limitations	9
1.15.2 Condition - Maintaining a register	10
1.15.3 Condition - Maintaining records	10
1.15.4 Condition - Notification to CASA of intent to exercise powers	10
1.15.5 Condition - Notification of outcomes to CASA	10
1.15.6 Condition - Availability of records	10
1.15.7 Relating a regulatory breach to a delegation	11
Revision history	11

1. CAR 42R - Changes to a system of maintenance

1.1 Purpose

This annex describes the specific scope of the provision and supporting appointment criteria to appoint an applicant as an authorised person to approve a change to a system of maintenance (SOM) for an Australian aeroplane, helicopter, or manned free balloon.

Note: Annex C is an annex to [Principle \(DEL.08\) Managing airworthiness-related external delegates and authorised persons](#) and is supported by Worksheet (DEL.08) Annex C - CAR 42R - Changes to a system of maintenance.

1.2 Scope

Note: The scope of an instrument is dependent on the applicant's qualifications, experience and in some cases, employment conditions

A person may apply to approve a SOM or a change to a SOM for:

- aeroplanes that have a certificated seating capacity of 38 seats or more (high capacity) or
- aeroplanes that have a certificated seating capacity of less than 38 seats (not high capacity) or
- helicopters or
- aeroplanes and helicopters where the maintenance review board document (MRBD) is based on Maintenance Steering Group-3 (MSG-3) principles or later or
- aeroplanes and helicopters where the system includes a reliability program or
- aeroplanes where the aircraft is approved for extended range twin engine operations (ETOPS) or
- aeroplanes where the aircraft is approved for reduce vertical separation minima (RVSM) or
- aeroplanes where the aircraft is approved for required navigation performance (RNP) or
- aeroplanes where the aircraft is approved for operations to minima less than CAT 1 precision approach, or take-off with less than 800 meters visibility or RVR (low visibility operations).
- manned free balloons.

Note: Persons outside CASA will not be authorised to approve a SOM, or a change to a SOM to a special category aircraft.

The scope of an instrument is dependent on the applicant's qualifications, experience in some cases employment conditions

1.3 Qualifications

For initial appointment, the applicant must have successfully completed the CASA SOM course and a mentoring program with a suitably-qualified mentor within 12 calendar months prior to application.

1.4 Knowledge

To approve a SOM, or changes to a SOM, the applicant will be asked to demonstrate at interview:

- a sound knowledge regarding the application of CARs, relevant civil aviation advisory publications (CAAP), CASA policies and procedures
- a working knowledge of the following CAAPs and ACs:
 - [CAAP 41-02 Maintenance requirements for class B aircraft](#)
 - [CAAP 42L-01 Inspection of aircraft after abnormal flight loads, heavy landing or lightning strike](#)
 - [AC 21-24 - Flight recorder and underwater locating device maintenance](#)
 - [AC 21-99 - Aircraft wiring and bonding](#)
 - [AC 39-01 - Airworthiness Directives](#)
 - [AC 42-03 - Reliability programs](#)
- current technical knowledge and experience commensurate with that required for approving SOM, or changes to SOM
- a working knowledge of the information contained in aircraft type certification standards, information contained in aircraft type certificates (TC) and type certificate data sheets (TCDS), airworthiness limitations and certification maintenance requirements (CMR), aircraft flight manuals (AFM), airworthiness directives (AD) or other airworthiness and maintenance data applicable to the type of aircraft and prescribed purpose of operation
- an understanding of the aims and philosophy of maintenance programs and schedules, and manufacturer's instructions for continuing airworthiness in the development of, or variation to, a SOM
- how the requirements and development of supplementary maintenance programs such as a supplemental inspection document, a structural integrity program, a corrosion prevention and control program or aging aircraft programs, are applied to and integrated into a SOM
- knowledge of the implications that modifications or repairs to the aircraft may have on the SOM
- the ability to identify deficiencies in a SOM and how corrective actions will be put in place to improve the system.

1.5 Competence

The applicant will be asked to demonstrate competence in:

- the application of policies, methodologies and processes described in the applicant's written procedures
- their ability to find and interpret information in the Australian civil aviation legislation related to airworthiness, maintenance, and operational requirements, in particular those relating to the approval sought
- their ability to find and interpret information from foreign national airworthiness authorities (NAAs) related to airworthiness, maintenance, and operational requirements.

1.6 Maintenance Steering Group-3 (MSG-3) principles

If the application relates to approving a SOM where the MRBD is based on MSG-3 principles or later, the applicant will be asked to demonstrate the following in addition to the items mentioned above:

- An understanding of the development and analysis of the aircraft systems, structure, and zones using Maintenance Steering Group (MSG) type logic analysis processes resulting in the issue of a maintenance review board report (MRBR) or document (MRBD)
- Detailed knowledge of how MSG type philosophies are used to facilitate the development of maintenance requirements
- Knowledge of how the MRB process is applied to a SOM.

1.7 Reliability program

If the application relates to approving a SOM where the system is to include a reliability program, the applicant will be asked to demonstrate the following in addition to the items mentioned at Section 1.3 in this annex:

- Knowledge of reliability monitoring programs and an ability to identify the unique requirements for various operational environments and types of operation
- Where a reliability-based analysis program is required to substantiate variations to a SOM, detailed knowledge of how the program substantiates any variation, including the:
 - identification of parameters that provide for a realistic measure of the performance of aircraft systems, powerplants, components and structure
 - collection of data in the program that will be used to assess operational reliability
 - collation and analysis of data and how that data substantiates any variation to a SOM and
 - presentation of data in a logical and structured way for correct decision-making and record keeping.

1.8 Extended diversion time operations (EDTO)

If the application relates to approving a SOM where the aircraft is approved for extended diversion time operations (EDTO), the applicant will be asked to demonstrate the following in addition to the items mentioned at Section 1.3 in this annex:

- Knowledge of the airworthiness and maintenance requirements for EDTO and how those operations, systems and procedures are applied to, and integrated into the SOM, including the:
 - requirements as listed in the configuration maintenance and procedures (CMP) document and
 - specific EDTO maintenance requirements.

1.9 Reduced vertical separation minima (RVSM)

If the application relates to approving a SOM where the aircraft is approved for reduced vertical separation minima (RVSM), the applicant will be asked to demonstrate the following in addition to the items mentioned at Section 1.3 in this annex:

- Knowledge of the airworthiness and maintenance requirements for RVSM and how the maintenance requirements, systems and procedures are applied to, and integrated into the SOM.

1.10 Required navigation performance (RNP)

If the application relates to approving a SOM where the aircraft is approved for required navigation performance (RNP), the applicant will be asked to demonstrate the following in addition to the items mentioned at Section 1.3 in this annex:

- Knowledge of the airworthiness and maintenance requirements for RNP and how the maintenance requirements, systems and procedures are applied to, and integrated into the SOM.

1.11 Low visibility operations

If the application relates to approving a SOM where the aircraft is approved for low visibility operations, the applicant will be asked to demonstrate the following in addition to the items mentioned at Section 1.3 in this annex:

- Knowledge of the airworthiness and maintenance requirements for low visibility minima (below CAT 1) and how the maintenance requirements for those operations, systems and procedures are applied to, and integrated into the SOM.

1.12 Experience

Each applicant should submit, attached to their application, a resume setting out details of their experience that satisfies one or more of the following:

- Minimum of 3 years' experience in airworthiness management (relating to aircraft maintenance programs), maintenance or maintenance control of type certificated aircraft and
- For systems of maintenance generally, the functions leading up to the approval of at least 2 systems of maintenance
- In relation to a SOM where the MRBD is based on MSG-3 principles or later, the functions leading up to the approval of at least 2 SOMs based on MSG-3 principles
- In relation to a SOM where the system is to include a reliability program a declaration of competence from CASA with regard to the development of a reliability program
- In relation to a SOM where the aircraft is approved for EDTO, a declaration of competence from CASA with regard to the development of EDTO maintenance requirements
- In relation to a SOM where the aircraft is approved for RVSM, a declaration of competence from CASA with regard to the development of RVSM maintenance requirements
- In relation to a SOM where the aircraft is approved for RNP, a declaration of competence from CASA with regard to the development of RNP maintenance requirements
- In relation to a SOM where the aircraft is approved for low visibility operations, a declaration of competence from CASA with regard to the development of low vis maintenance requirements.

Note: Applicants must provide evidence of experience in relation to each aircraft type (aeroplanes, helicopters and balloons). The scope of experience will determine the scope of any proposed instrument. A lack of experience in a particular type will result in that type being excluded. Evidence of equivalent aviation experience may be considered and will be subject to review by CASA on a case-by-case basis.

If the applicant satisfies one or more of the relevant experience requirements, the remaining worksheet items for this section must be marked N/A.

1.13 Mentoring

All applicants applying for a delegation under CAR 42R should successfully complete a number of tasks to an acceptable standard, under guidance of a mentor approved by the CASA Delegate Management.

To achieve the mentoring outcomes, participants must successfully complete:

- General aviation aircraft: at least 2 SOM variations
- Transport category aircraft: 3 SOM variations, with at least one being a transport category aircraft.

Details of the mentoring process are available in the Delegate Mentoring Journal – System of Maintenance which will be made available during the CASA SOM course.

1.14 Procedures manual - Specific criteria

In addition to the criteria listed at Appendix A in [Principle \(DEL.08\) Managing airworthiness-related external delegates and authorised persons](#), the applicant will be required to include the following in their procedures manual.

1.14.1 Reporting

Details of a register to record the following information about each SOM issued, stating the:

- name of the holder of the certificate of registration (CofR)

- manufacturer, type, model and serial number (SN) of the aircraft
- registration marking
- date of approval of each SOM or change
- details of each change to a SOM.

1.14.2 Application procedures

- Application to be from CofR holder
- Information needed in support of application stated.

1.14.3 SOM – Formatting

- Format and layout of a SOM described
- Aircraft registration and registered operator to be included
- Aircraft, engine, propeller and auxiliary power unit (APU) details (type, model, SN) that SOM applies to, to be included
- Aircraft flight profile and utilisation rate on which the SOM is based to be included
- Definitions and abbreviations used in the SOM to be included
- Maintenance release inspection to be identified
- Maintenance planning latitudes (if any) to be included
- MEL to be included
- Individual tasks or checks to be assigned to specific aircraft (where SOM applies to a fleet only)
- Source reference for each task or check to be included (e.g. MRB, MPD, SB, AD).

1.14.4 SOM – Assessment

- Checklists to evaluate the content of the SOM included
- Statement setting out the circumstances where the SOM may refer to another document including revision status, date etc.
- Aircraft flight profile and utilisation rate to be taken into account
- Maintenance requirements for modifications and repairs to be included
- Process to add an aircraft to an existing SOM:
 - Comparison of SOM and aircraft
 - SOM to be approved under regulation 42M of CAR
- Process to change an existing SOM for the same aircraft
- SOM content to comply with regulation 42L of CAR stated
- TCDS, airworthiness limitation section and AD requirements to be included
- Description of how variations to MRBD, MPD, MMP/schedule are to be substantiated
- Structural inspection program and corrosion prevention and control program (CPCP) to be included
- Service bulletins (SB) service letters (SL) etc. published by the aircraft, engine and component manufacturer to be evaluated
- CMR to be included (without change)
- Statement that simply having a paragraph or single line instead of the regulation 42L of CAR requirement for life limited components is not permitted

- Statement incl that SOM must be at least as safe as manufacturer's maintenance schedule
- Periodic review of the SOM required
- Requirements for manufacturer's ICA to be included stated
- CASA regulatory requirements are to be included stated
- Requirement that maintenance requirements specified in the following are to be considered:
 - TC
 - Airworthiness limitations section of MMP
 - Supplemental inspection document (SID)
 - MRBR
 - SB.
- Administrative management processes (to manage SOM) stated (where there is no MCM)
- SOM to be aircraft specific stated
- Maintenance related to following operational approvals have been included in the SOM:
 - Extended diversion time operation (EDTO)
 - Reduced vertical separation minima (RVSM)
 - Minimum navigation performance specifications (MNPS)
 - Automatic approach automatic landing capability – CAT II/CATIII
- Maintenance requirements for role, emergency and any additional equipment fitted to the aircraft have been assessed and applicable maintenance tasks included in the SOM
- Description of the process to have a reliability program accepted by CASA prior to inclusion into the SOM.

1.14.5 Approval

- Source documents on which the SOM is based (e.g. MRBR, MPD/MPG or MMP for aircraft, engine and propeller) to be recorded
- Process for completing SOM assessment packages
- Format of a SOM stated
- IOA holders SOM sign off process stated
- Approving the SOM (e.g. sign LEP)
- Notification of result to CofR holder.

1.14.6 IOA specific forms

List and description of each form used during assessment included: Copy of each form to be used during assessment included.

1.15 Conduct Surveillance on IOAs

1.15.1 Condition – Individual conditions, scope and limitations

Each Instrument of Appointment contains conditions and limitations specific to the individual. Common to these conditions are:

- The scope of the appointment; and
- Requirement to comply with an approved procedures manual.

For Surveillance activities, these areas may be validated by:

- Reviewing the DMNS and authorisation holders register to ensure tasks are within approved scope. Compare the authorisation holders register against the DMNS.
- Approvals generally don't require the authorisation holders to provide CASA supporting evidence on completion of the task. However, they are required to maintain the work packages for at least 5 years. This package should contain evidence that would substantiate the issue of the SOM.
- Select tasks to sample, and review against the CASA System of Maintenance Manual and the authorisations holders procedures.
- Review of the process against the actual practice.
- Where conditions require CASA approval prior to tasks being commenced this may be demonstrated by emails contained within the work package, such as SOM with Reliability Programs
- Refer to the related schedule on Instrument to establish limitations and sample tasks against activity undertaken

1.15.2 Condition - Maintaining a register

The delegate must maintain a register containing the following information:

- The name of the registered operator
- The manufacturer, type, model and serial number of the aircraft
- The registration marking
- The details of each change made to an SOM;
- The date of issue and date of expiry (if applicable) of each document

During surveillance, the register is validated by reviewing the DMNS records against the register held by the authorisation holder.

1.15.3 Condition - Maintaining records

The delegate must maintain copies of all documents associated with the exercise of power for at least 5 years after the date of issue. The inspector may review the following documents to determine whether the records are adequately maintained. Storage conditions and the content maintained should be accessible on site to the inspector. This can be paper based or electronic, however should be consistent with the authorisation holders procedures. If electronic (soft copy) then suitable back up files should be maintained.

1.15.4 Condition - Notification to CASA of intent to exercise powers

On engagement by a client, and prior to exercising their powers, the delegate must notify CASA through the Delegate Management Notification System. Compliance with these conditions may be validated by reviewing records within the evidence package to establish a reference point.

1.15.5 Condition - Notification of outcomes to CASA

The delegate must record the details of the outcome to CASA into the DMNS within 14 days after a power is exercised. Compliance with this condition may be verified by comparing the DMNS records task completed date against the date identified on the certificate issued.

1.15.6 Condition - Availability of records

It is a condition of an authorisation that a delegate must make their register and all documents available to a CASA inspector for inspection. Surveillance should validate that the register contains all the required documentation.

1.15.7 Relating a regulatory breach to a delegation

If a breach of a condition is found during a surveillance event, the inspector is to record the deficiency against the relevant condition and use the relate function in EAP to relate the breach to the regulation CAR 42R. This will enable reporting against that delegation.

Revision history

Amendments/revisions for this annex are recorded below in order of the most recent first.

Table 1. Revision history table

Version No.	Date	Parts / Sections	Details
1.1	December 2024	1.12 1.15	Added note / Add Surveillance section
1.0	September 2024	All	First issue