



**Australian Government**

**MEA369 Inspect and maintain structures  
and related components of non-pressurised  
small aircraft**

**Release: 1**

# **MEA369 Inspect and maintain structures and related components of non-pressurised small aircraft**

## **Modification History**

Release 1 - New unit of competency

## **Application**

This unit of competency requires application of procedures and techniques associated with the inspection and maintenance of non-pressurised small aircraft structures during scheduled or unscheduled maintenance, including special inspections required after events, such as heavy landings, overstress or flight through heavy turbulence.

The unit also covers the performance of a limited range of minor metal and composite repairs that are classified as elementary maintenance. Also required is an application of procedures and techniques associated with the removal and installation of related structural and non-structural components, including items such as internal trim, seats and emergency equipment. Work may be performed individually or as part of a team.

The unit is part of the Aeroskills Mechatronics Certificates III and IV small aircraft maintenance training pathways.

Where a Civil Aviation Safety Authority (CASA) licensing outcome is sought this unit forms part of the CASA requirement for the granting of the chosen maintenance certification licence under Civil Aviation Safety Regulation (CASR) Part 66, in accordance with the licensing provisions in the Companion Volume Implementation Guide.

## **Pre-requisite Unit**

MEA101	Interpret work health and safety practices in aviation maintenance
MEA103	Plan and organise aviation maintenance work activity
MEA105	Apply quality standards applicable to aviation maintenance processes
MEA107	Interpret and use aviation maintenance industry manuals and specifications
MEA108	Complete aviation maintenance industry documentation
MEA109	Perform basic hand skills, standard trade practices and fundamentals in aviation maintenance

## Competency Field

Aviation maintenance

## Unit Sector

## Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

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|----|-----------------------------|-----|---|
| 1. | Inspect aircraft structure  | 1.1 | Relevant maintenance documentation is used to identify specific inspection requirements   |
|    |                             | 1.2 | Appropriate preparation and access to the aircraft structure is undertaken to allow for proper inspection in accordance with maintenance documentation  |
|    |                             | 1.3 | Aircraft structure is visually or physically checked for signs of deformation defects or damage in accordance with maintenance documentation and approved procedures while observing all relevant work health and safety (WHS) requirements, including the use of material safety data sheets (MSDS) and items of personal protective equipment (PPE) |
|    |                             | 1.4 | Damage or defects are assessed against damage or wear limits specified by structural repair manual or other approved data to determine if repair or replacement is required   |
|    |                             | 1.5 | Maintenance documentation is completed and processed in accordance with standard enterprise procedures  |
| 2. | Maintain aircraft structure | 2.1 | Minor repairs classified as elementary maintenance are performed in accordance with approved repair methods ensuring that aircraft standard practices are used and process requirements are carried out while observing all relevant WHS requirements, including the use of MSDS and items of PPE   |
|    |                             | 2.2 | Preventative maintenance techniques are employed to preserve the integrity of aircraft structure  |
|    |                             | 2.3 | Work area is cleaned of all waste material or contaminants  |

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|----|--------------------|---|---|
|    | 2.4                | Required maintenance documentation is completed and processed in accordance with standard enterprise procedures |   |
| 3. | Remove components  | 3.1   | Structure is supported and prepared in accordance with the applicable maintenance manual to ensure personnel safety and freedom from damage to aircraft or component during component removal |
|    |                    | 3.2   | Component removal is carried out in accordance with the applicable maintenance manual while observing all relevant WHS requirements, including the use of MSDS and items of PPE               |
|    |                    | 3.3   | Required maintenance documentation is completed and processed in accordance with standard enterprise procedures   |
|    |                    | 3.4   | Where applicable, removed components are tagged and prepared for transport in accordance with specified procedures  |
| 4. | Install components | 4.1   | Structural and/or non-structural components to be installed are checked to confirm correct part numbers, serviceability and modification status   |
|    |                    | 4.2   | Component installation is carried out in accordance with the applicable maintenance manual while observing all relevant WHS requirements, including the use of MSDS and items of PPE          |
|    |                    | 4.3   | Support/safety equipment is removed at an appropriate time to ensure personnel safety and freedom from structural damage  |
|    |                    | 4.4   | Required maintenance documentation is completed and processed in accordance with standard enterprise procedures   |

## Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

## Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

**Inspection of aircraft structure and removable components of structure include:**

- Non-ferrous and ferrous alloys and composite (FRP) materials used in aircraft construction
- Structural fastening and attachment hardware and/or devices
- Seals and sealants
- Glass and moulded plastics
- Preparation for application of non-destructive testing (NDT) techniques
- Doors, hinges and locking mechanisms for damage/misalignment
- Inspections applicable to each of safe life, damage tolerant and fail safe structure relevant to enterprise
- Ageing aircraft inspection programs
- Inspection after abnormal events

**Damage or defects include:**

- Impact damage
- Fatigue cracking
- Corrosion
- Delamination of composites and bonded structures

**Minor repairs include:**

- Performing minor repair tasks classified as elementary maintenance, including:
  - repair of non-structural fairings, cover plates and cowlings
  - stop drilling of cracks and bonding to acrylic or Perspex windscreens
  - minor repairs to fabric surfaces
  - restoration of preservative or protective materials

**Removable components include:**

- Those that are installed using bolts and/or screws. Where component removal and installation requires the removal and installation of rivets the applicable unit is MEA371 Perform major repairs and modifications to small aircraft structure

**Components include:**

- Removable components of wings, tail booms, pylons, empennage, skids, fairings and nacelles
- Removable components or sections of non-pressurised fuselages
- Non-pressurised fuselage entry, cargo, access doors and associated seals, including checking and adjustment of all doors and access panels and associated locking

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- Specialist advice is obtained from:**
- mechanisms
  - Non-pressurised fuselage windows and transparent panels
  - Floor panels
  - Supervisors
  - Specialist structures personnel
- Maintenance documentation includes:**
- Servicing schedules
  - Maintenance manuals
- Procedures and requirements include:**
- Industry standard procedures specified by manufacturers, regulatory authorities or the enterprise

## Unit Mapping Information

New unit of competency partially replacing MEA311D Inspect and repair/modify aircraft structures and also partially replacing MEA363B Inspect, repair and maintain structures and related components of non-pressurised small aircraft

## Links

Companion Volume implementation guides are found in VETNet -  
<https://vetnet.education.gov.au/Pages/TrainingDocs.aspx?q=ce216c9c-04d5-4b3b-9bcf-4e81d0950371>