Overview of the role

Carrying out inspections for maintenance and ground handling of a range of military or civil aircraft, including rotary and fixed wing within an airworthiness environment.

Standard in development

L2: Aviation maintenance mechanic

Title of occupation
Aviation maintenance mechanic

UOS reference number
ST0014

Core and options
No

Level of occupation
Level 2

Route
Engineering and manufacturing

Typical duration of apprenticeship
18 months

Target date for approval
01/01/0001

Resubmission
No

Would your proposed apprenticeship standard replace an existing framework?
No
Does professional recognition exist for the occupation?  
No

**Occupation summary**

This occupation is found in the engineering sector, in the aviation industry.

Aviation maintenance mechanics are found across the aviation sector. They can be found within both military and civilian organisations. They carry out inspections for maintenance on fixed wing and rotary aircraft (small aeroplanes to airliners, jet fighters and helicopters). Employers vary in size from small to large.

The broad purpose of the occupation is to perform inspections for maintenance on aeroplanes and helicopters. Aviation maintenance mechanics carry out pre and post flight inspection for maintenance. They prepare, and safety check the work area. They plan the activity and carry out airworthiness inspections for maintenance, such as replenishments. They assist with aircraft ground handling and complete documentation. They also ensure that the work area is restored on completion of the maintenance activity.

Aviation maintenance mechanics are required to work in a regulated engineering environment. Depending on the activity they may work inside or outdoors. This could include hangars, dispersals, gates, aprons, workshops, and on ships. It may also include areas away from airfields or airports. Work may involve maintenance on a variety of aircraft or aircraft components. They may be required to work shifts and in hazardous areas. For example, working at height, noisy environments or in confined spaces.

In their daily work, people in this occupation interact with other aviation maintenance mechanics, engineers, operators, and supply chain staff. They also interact with various stakeholders including flight crew, shift leaders, colleagues, and regulators. They work individually or as part of the larger team. This depends on the size and structure of the organisation. They typically work under both supervised and unsupervised direction of an engineer, technician, or supervisor.

An employee in this occupation is responsible for complying with regulatory and organisational requirements. They must follow organisationally defined and approved procedures when working on aircraft or aircraft systems. They must work within the specified organisational health, safety, and environmental regulations. They must use the appropriate protective clothing, equipment, and resources. They are responsible for the correct use and control of tools and equipment. All work must be completed safely and efficiently as directed by supervisory staff.

**Typical job titles**

Aircraft maintenance mechanic Aircraft mechanic Base maintenance support mechanic Line support mechanic Unlicensed aircraft mechanic

Are there any statutory/regulatory or other typical entry requirements?  
Yes
## Entry requirements

Entry requirements will be determined by individual employers.

## Occupation duties

<table>
<thead>
<tr>
<th>DUTY</th>
<th>KSBS</th>
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<tbody>
<tr>
<td><strong>Duty 1</strong> Identify, prepare, and check the work area for the maintenance activity. Perform a health, safety, and environmental check.</td>
<td>K1 K2 K3 K4 S1 S2 S13 S15 S17 S27 B1 B2 B3 B4</td>
</tr>
<tr>
<td><strong>Duty 2</strong> Select aircraft data, publications and maintenance documents required for the maintenance activity.</td>
<td>K5 K6 K11 K13 K17 S3 S4 S27 B3</td>
</tr>
<tr>
<td><strong>Duty 3</strong> Prepare for any aircraft maintenance activity by checking the availability of tools, equipment, and materials. Carry out pre-use checks of equipment and resources ensuring there are sufficient supplies of materials and consumables for the maintenance activity.</td>
<td>K2 K12 K14 K19 K20 S2 S5 S6 S8 S9 S13 B1 B2 B3 B4</td>
</tr>
<tr>
<td><strong>Duty 4</strong> Carry out the control care and maintenance activities required to preserve the quality and integrity of designated aircraft parts and components.</td>
<td>K1 K2 K3 K4 K5 K7 S1 S2 S10 S13 S27 B1 B2 B3 B4</td>
</tr>
<tr>
<td><strong>Duty 5</strong> Perform aircraft or aircraft component inspection activities reporting any issues.</td>
<td>K1 K2 K3 K4 K5 K6 K7 K16 S1 S2 S3 S5 S11 S12 S13 S14 S16 S23 S27 B1 B2 B3 B4 B5</td>
</tr>
<tr>
<td><strong>Duty 6</strong> Carry out aircraft ground handling operations, as a supervised member of an aircraft movement team.</td>
<td>K1 K2 K3 K4 K10 K12 K14 K15 K18 K21 K22 S1 S5 S6 S13 S19 S27 B1 B2 B3 B4</td>
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<td>DUTY</td>
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<td><strong>Duty 7</strong> Carry out aircraft preparation for flight and recovery from flight, including replenishment of consumables.</td>
<td>K1 K2 K3 K4 K6 K11 K13 K14 K15 K17 K21 K22 K23 K24 K25 S1 S2 S5 S6 S7 S11 S12 S13 S15 S16 S17 S19 S23 S24 S25 S26 S27 B1 B2 B3 B4</td>
</tr>
<tr>
<td><strong>Duty 8</strong> Conduct first line aircraft or aircraft component maintenance - preventative and corrective.</td>
<td>K1 K2 K3 K4 K5 K6 K11 K14 K21 K22 K25 S1 S2 S5 S6 S7 S8 S10 S11 S12 S13 S14 S26 S27 B1 B2 B3 B4 B5</td>
</tr>
<tr>
<td><strong>Duty 9</strong> Perform routine and non-routine mechanical system component removal, installation, setup and testing as directed by an authorised person.</td>
<td>K1 K2 K3 K4 K9 K11 K14 K17 K18 K21 K22 K25 S1 S2 S5 S6 S7 S8 S10 S11 S12 S13 S14 S15 S20 S22 S26 S27 B1 B2 B3 B4 B5</td>
</tr>
<tr>
<td><strong>Duty 10</strong> Perform routine and non-routine electrical or avionic system component removal, installation, setup and testing as directed by an authorised person.</td>
<td>K1 K2 K3 K4 K8 K11 K14 K17 K18 K21 K22 K25 S1 S2 S5 S6 S7 S8 S10 S11 S12 S13 S14 S15 S21 S22 S26 S27 B1 B2 B3 B4 B5</td>
</tr>
<tr>
<td><strong>Duty 11</strong> Complete all documentation associated with the maintenance activity.</td>
<td>K11 K13 K16 K17 K21 S3 S4 S5 S14 S16 S27 B1 B3 B4</td>
</tr>
<tr>
<td><strong>Duty 12</strong> Reinstate the work area on completion of the maintenance activities. Complete post activity tool and equipment checks. Ensure all waste materials are disposed of in accordance with current legislation.</td>
<td>K1 K2 K3 K4 K11 K12 K16 K19 S1 S2 S5 S8 S15 S16 S18 S27 B1 B2 B3 B4</td>
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**KSBs**

**Knowledge**


**K2**: Principles of flight safety: foreign object damage (FOD) prevention, responsibilities of individuals for flight safety, aircraft zones, systems, and components: what they are, why they are important, potential dangers, use of safety management systems (SMS).

**K3**: Awareness of environment and sustainability regulations, relevance to the occupation and the mechanic's responsibilities. Types of pollution and control measures: noise, smells, spills, and waste. Efficient use of resources. Waste and energy management.


**K5**: Maintenance activities, practices, and techniques: scheduled or unscheduled, corrective and preventative.

**K6**: Flight line maintenance: purpose and the types. Pre (before flight), post (after flight) maintenance. Inspection techniques of wheels, brakes, transparencies, and gauges. Fluid levels: oil, fuel, hydraulics, gaseous systems, and their methods of replenishment.

**K7**: Airframe structural inspection and husbandry: general concepts, structural zones, locking and fastener devices, corrosion, and component handling. Control, care, inspection processes and maintenance procedures.

**K8**: Awareness of aircraft electric and avionic systems: general concepts, safety considerations, common faults and issues, components, simple tests post system disturbance and restoration.

**K9**: Awareness of aircraft mechanical and engine related systems: general concepts, safety considerations, common faults and issues, components, simple tests post system disturbance and restoration.

**K10**: Aircraft movement, storage, and security procedures. Selection and use of support facilities, equipment, and resources.

**K11**: Awareness of statutory military or civil airworthiness legislation: responsibilities and why they are important.

**K12**: Standard operating procedures (SOPs) and quality assurance: what they are and why they are important.


**K14**: Communication: verbal communication techniques. Matching style to audience. Barriers in communication and how to overcome them.

**K15**: Communication: non-verbal; hand signals, symbols, and signage.

**K16**: Communication: written communication techniques. Writing using plain English principles.

**K17**: Aircraft documentation: documentation methods and requirements - electronic and paper.

**K18**: Awareness of the Equality Act: equality, diversity, and inclusion in the workplace.

**K19**: Tools and equipment: identification and selection of tools and equipment.

**K20**: Tool control processes and procedures: Storage and condition check, calibrated equipment requirements and calibration certificates.

**K21**: Roles and limits: position within operation, limits of autonomy and reporting procedures.

**K22**: Principles of good team working.

**K23**: Process and procedures for preparing an aircraft for flight operations (engine start and 'see of').

**K24**: Process and procedures for recovering an aircraft from flight operations ('see in').

**K25**: Process and procedures for applying aircraft electrical power.
Skills

S1: Comply with health and safety regulations and procedures.
S2: Comply with environmental and sustainability regulations and procedures. Identify, handle and segregate resources for reuse, recycling, and disposal.
S3: Use information technology and digital systems. Comply with GDPR and cyber security.
S4: Collect and use information. For example, aircraft servicing schedules, aircraft technical log.
S5: Record maintenance information: paper based or electronic.
S6: Communicate with colleagues verbally.
S7: Communicate with colleagues non-verbally. For example, standard signals used when marshalling and handling aircraft.
S8: Select and use tools and equipment.
S9: Follow tool control processes and procedures including tool calibration, storage, and condition.
S10: Identify, handle and store aircraft components and parts.
S11: Inspect and assess condition of aircraft components and restore to former state, including reinstating access panels.
S12: Use simple measuring and test equipment. For example, steel rule, and digital multimeter.
S13: Follow work instructions: verbal or written.
S14: Comply with statutory military or airworthiness legislation.
S15: Identify and mitigate dangers within the air environment. For example, aircraft engines running, intake, and exhaust areas.
S16: Identify and report on progress and issues.
S17: Prepare the work area prior to the activity. For example, pre-use checks on ground support equipment (GSE), fit and remove aircraft covers, bungs or blanks.
S18: Restore the work area on completion of the activity.
S19: Comply with aircraft movement procedures. For example, receipt and dispatch or as a member of an aircraft movement team.
S20: Replace mechanical system components. For example, engine components, hydraulic system components, air-conditioning components, or pneumatic system components.
S21: Replace electrical or electronic system components. For example, electrical power distribution, aircraft lighting, communication, navigation, or cabin equipment.
S22: Contribute to team tasks for aircraft maintenance. For example, on engine assemblies, landing gear assemblies, flying control surfaces, door assemblies, aircraft cabin fixtures and assemblies or avionic rack assemblies.
S23: Perform aircraft pre and post flight servicing. For example, airframe and systems: (aircraft landing gear assemblies and retraction bays or aircraft wheels and tyres).
S24: Perform checks and replenishments. For example, check and replenish (aircraft gaseous system, aircraft hydraulic system fluid levels, engine oil, fuel, or tyre pressures).
S25: Clean and visually check aircraft transparencies.
S26: Apply external electrical power to an aircraft.
S27: Follow standard operating procedures (SOPs) and quality assurance processes.

Behaviours

B1: Puts health and safety, flight safety and human factors first, for themselves and others.
B2: Considers the environment and sustainability.
B3: Takes responsibility for their own work.
B4: Team-focussed to meet work goals: working effectively with others, seeks help when needed and helps others when requested.
B5: Committed to continued professional development (CPD).

Qualifications

English and Maths

English and maths qualifications form a mandatory part of all apprenticeships and must be completed before an apprentice can pass through gateway. The requirements are detailed in the current version of the apprenticeship funding rules.

Does the apprenticeship need to include any mandated qualifications in addition to the above-mentioned English and maths qualifications?
No

Consultation

Progression Routes

ST0015 Survival equipment fitter 1.0 L3
ST0457 Engineering technician 1.1 L3
ST1315 Aircraft maintenance technician L3

Supporting uploads

Mandatory qualification uploads
Mandated degree evidence uploads
Professional body confirmation uploads

Involved employers

Capita, KLM, Ministry of Defence (MOD), Resource Group, Royal Navy