

Overview of the role

Service, maintain and repair a wide range of equipment used within the construction and allied industries.

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Standard in development

L2: Construction equipment maintenance mechanic

Version 1.1

Title of occupation

Construction equipment maintenance mechanic

UOS reference number

ST0805

Core and options

No

Level of occupation

Level 2

Occupational maps data

Route: Engineering and manufacturing

Pathway: Maintenance, Installation & Repair

Cluster: Service, repair and or or overhaul operative or technician

Typical duration of apprenticeship

24 months

Target date for approval

01/09/2025

Resubmission

No

Would your proposed apprenticeship standard replace and existing framework?

Yes

Does professional recognition exist for the occupation?

No

Regulated occupation

Is this a statutory regulated occupation?

No

Occupational summary

This occupation is found in the construction, plant and tool hire industry as well as in allied industries such as rail plant, demolition and quarrying that use construction-based equipment.

The broad purpose of the occupation is to service, maintain and repair a range of construction-based equipment such as mobile cranes, excavators, disc cutters, crushers, demolition plant, road-rail equipment, water pumps and telescopic handlers. The construction equipment maintenance mechanic will ensure that the construction equipment functions correctly, safely and efficiently, allowing construction and other projects to be carried out on time. The mechanic may work on vital infrastructure projects such as power generation, roads, rail and airports. The construction equipment maintenance mechanic checks, services and undertakes basic fault finding activities and will remove, dismantle, repair, assemble and refit a range of components. They will also ensure that the item of plant is fully functional prior to handover to the operational side.

In their daily work, an employee in this occupation interacts with a range of stakeholders, which may include customers, members of the public, supervisors, co-

workers, other trades and occupations, supporting occupations, managers, suppliers, safety professionals, manufacturers and administration staff. The mechanic may be mobile, working on-site on a national basis or they may be workshop-based. They may work on their own subject to overall guidance and direction by others. The work can include weekend and night work to cover breakdowns. They may work in a range of construction related environments including site-based, mobile, workshop based, in and outdoors in all seasons and weathers.

An employee in this occupation will be responsible for ensuring they have the right tools and resources such as oils, lubricants and parts for each task. They will undertake tasks whilst applying the correct manufacturer's technical information required and will work in line with legislative requirements. They work under generic supervision either within a workshop or on site but are expected to be both autonomous and the technical focal point during any maintenance activity.

Typical job titles

Construction equipment mechanic Maintenance technician Mobile technician Plant fitter Plant mechanic Workshop fitter

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

No

Occupation duties

Duty	KSBs
	K1 K2 K7 K8 K9 K10 K11 K12 K13 K15 K16 K18 K19 K20 K21 K25
Duty 1 Identify and prepare the working area and undertake a local health, safety and environmental risk assessment.	S1 S2 S3 S10 S14 S15 S16 S17 S18 S20 S26 B2 B3 B4 B5 B6
Duty 2 Identify and obtain required resources and equipment to undertake the work. Ensure that the equipment is calibrated if required and is covered by routine inspection requirements.	K1 K2 K5 K7 K8 K9 K10 K12 K13 K14 K16 K18 K19 K20 K21 S2 S3 S6 S10 S15 S16 S17 S18 S20 S25 B2 B3 B4 B5 B6
Duty 3 Prepare the plant or equipment within the work or maintenance environment in accordance with the safe	K1 K2 K6 K7 K8 K9 K10 K11 K12 K13 K15 K18 K19 K20 K21

Duty	KSBs
system of work and exclusion zones, complying with manufacturer and customer requirements so that components can be removed or accessed as required.	S2 S3 S10 S14 S15 S16 S17 S18 S20 S25 S26 B2 B3 B4 B5 B6 K1 K2 K3 K4 K5 K6 K7 K8 K9 K10 K11 K12 K13 K14 K15 K17 K18 K20 K21 K27 K30 K32
Duty 4 Undertake operational checks on construction plant and equipment. Complete handover activities and report findings as required.	S5 S6 S9 S10 S14 S15 S16 S17 S18 S19 S20 S21 S22 B2 B3 B4 B5 B6
Duty 5 Remove a range of components such as engines, electronic modules, transmissions, wiring looms and hydraulic pipework from construction plant and equipment in accordance with manufacturer guidelines and site specific and legislative requirements.	K1 K2 K3 K4 K5 K6 K7 K8 K9 K10 K11 K12 K13 K15 K21 K26 K27 K28 S2 S4 S10 S14 S15 S16 S17 S18 S25 S26 B2 B3 B4 B5 B6 K1 K2 K3 K4 K6 K7 K8 K9 K10 K11 K12 K13 K15 K20 K21 K26 K27 K28 K32
Duty 6 Dismantle construction equipment-based components, check on operational condition in accordance with manufacturer specifications and report to relevant persons.	S2 S4 S5 S10 S14 S15 S16 S17 S18 S19 S20 S21 S25 S26 B2 B3 B4 B5 B6
Duty 7 Repair components such as hydraulic equipment, engines, associated components, transmissions, chassis and driveline components and electrical components. Complete function and safety tests according to legislative and manufacturer requirements prior to recommissioning.	K1 K2 K3 K4 K6 K7 K8 K9 K10 K11 K12 K13 K15 K20 K21 K27 K28 S2 S5 S7 S10 S14 S15 S16 S17 S18 S22 S25 S26 B2 B3 B4 B5 B6

Duty	KSBs
Duty 8 Assemble, connect, attach and refit new or repaired components and ancillary equipment following manufacturer assembly instructions.	K1 K2 K3 K4 K5 K6 K7 K8 K9 K10 K11 K12 K13 K15 K21 K27 K28 K29 K31 S2 S4 S7 S8 S10 S14 S15 S16 S17 S18 S25 S26 B2 B3 B4 B5 B6
Duty 9 Remove, repair, modify, adapt or produce components using fabrication, chemical and hot-work techniques such as burning, brazing and welding (Mig, Tig, argon-arc, heating, plasma).	K1 K2 K7 K8 K9 K10 K11 K12 K13 K16 K21 K26 K27 K28 S2 S7 S10 S12 S14 S15 S16 S17 S18 S25 S26 B2 B3 B4 B5 B6
Duty 10 Install and set up construction plant and equipment in preparation for operational activities. Inform or advise end-users on the specific functions and features of the equipment.	K1 K2 K3 K4 K6 K7 K8 K9 K10 K11 K12 K13 K15 K21 K23 K31 S10 S13 S14 S15 S16 S17 S18 S19 S20 S21 S26 B2 B3 B4 B5 B6
Duty 11 Carry out pre and post-delivery checks and undertake pre and post-hire checks on construction plant and equipment. Report and escalate issues.	K1 K2 K3 K4 K5 K6 K7 K8 K9 K10 K11 K12 K13 K17 K20 K21 K23 K27 K30 K31 K32 S5 S10 S11 S13 S14 S15 S16 S17 S18 S19 S20 S21 S22 B2 B3 B4 B5 B6
Duty 12 Apply and use specialist tools and processes, such as hydraulic, mechanical, electrical and digital equipment, and the use of relevant supporting software.	K1 K2 K5 K6 K7 K8 K9 K10 K11 K12 K13 K14 K15 K17 K18 K20 K21 K24 K25 K32 S2 S7 S10 S14 S15 S16 S17 S18 S26 B2 B3 B4 B5 B6
Duty 13 Complete documentation of work activities to stakeholders, identifying aspects of the work undertaken, and advisory, environmental	K1 K2 K5 K6 K7 K9 K10 K12 K13 K14 K15 K17 K18 K20 K21 K24 K25 K32 S1 S2 S6 S9 S10 S14 S15 S16 S17 S18 S19 S20 S21 S22 S23 S24 S26

Duty	KSBs
and safety information to be conveyed. Restore the working area.	B2 B3 B4 B5 B6
Duty 14 Source and apply technical information from a range of sources such as manufacturer manuals and organisational documentation.	K1 K2 K3 K4 K7 K8 K9 K10 K12 K13 K15 K18 K21 K24 K27 S16 S17 B2 B3 B4 B5 B6
Duty 15 Complete routine and scheduled servicing and maintenance on construction plant and equipment, using manufacturer and organisational guidance. Report and escalate findings where required.	K1 K2 K3 K4 K5 K6 K7 K8 K9 K10 K11 K12 K13 K15 K18 K20 K21 K27 K32 S2 S4 S5 S10 S14 S15 S16 S17 S18 S19 S20 S21 S24 S25 S26 B2 B3 B4 B5 B6
Duty 16 Complete personal and organisational development activities and comply with organisational quality assurance activities and requirements.	K1 K2 K5 K6 K7 K9 K10 K12 K13 K17 K20 K21 K22 K23 K24 K30 S2 S10 S14 S15 S16 S17 S18 S19 S22 S23 B1 B2 B3 B4 B5 B6
Duty 17 Use a range of communication methods to convey and receive information and instructions, including verbal, written, graphic and electronic methods.	K1 K5 K7 K10 K13 K17 K18 K20 K21 K23 K32 S1 S9 S13 S15 S16 S17 S19 S20 S21 S23 B2 B3 B4 B5 B6
Duty 18 Work in compliance with health and safety and environmental legislation and requirements. Identify, check and use Personal Protective Equipment (PPE) in compliance with the risk assessment, regulations, manufacturers' instructions and organisational procedures and. Ensure that PPE is maintained and replaced at the recommended expiry	K1 K2 K3 K4 K5 K6 K7 K8 K9 K10 K11 K12 K13 K14 K15 K16 K17 K18 K19 K20 K21 K25 S1 S2 S3 S4 S5 S7 S8 S9 S10 S11 S12 S13 S14 S15 S16 S17 S18 S22 S24 S25 S26 B2 B3 B4 B5 B6

Duty	KSBs
dates and stored in line with requirements.	

KSBs

Knowledge

K1: Principles of obtaining and using information from construction equipment documentation and engineering drawings.

K2: Types, uses, core function and operation of construction equipment.

K3: Principles, function, operation, application and limitation of energy sources and transmission methods, for example IC power units, hydraulics, pneumatics and electrics.

K4: Principles, function, application and types of components used on equipment including those that provide direction, delay, movement, power-transmission, heat, light and flow.

K5: Types, applications and limitations of fluids used in construction-based plant including oils and lubricants, cooling and heating and for power and work transmission.

K6: Mechanical principles and efforts that apply to construction-based plant that produce outcomes of work from an energy source.

K7: Awareness of health and safety regulations, relevance to the occupation and the mechanic's responsibilities: Health and Safety at Work Act (HASWA), Control of Substances Hazardous to Health (COSHH), Display Screen Equipment (DSE), electrical, Work at Height (WAH), Provision and Use of Work Equipment (PUWER), Lifting Operations and Lifting Equipment (LOLER), Reporting of Injuries, Diseases, and Dangerous Occurrences (RIDDOR) and near miss reporting, confined spaces, noise, management systems of occupational health and safety, emergency evacuation procedures, isolation and emergency stop procedures, lone working, manual handling, static and dynamic risk assessments, method statements and safe systems of work, permits to work. Signage, fire extinguishers, situational awareness, slips, trips and falls, types of hazards.

K8: Safety control equipment and how to use personal protective equipment (PPE), and the different types that are available.

K9: Length and height, weight, area, volume, heat, pressure, electrical conductivity for measuring and calculating, what units are used and types of measuring equipment.

K10: Environmental regulations and impact on role. Efficient use of resources. Recycling, reuse and safe disposal of waste.

K11: Methods of protecting work and working areas from damage such as pollution, contaminants, weather and from controlling restricted working areas.

K12: Principles of planning work.

K13: Methods and procedures for dealing with emergencies including fire, spillages, injuries and other task-related hazards. Accident and incident management and mitigation methods

K14: Tools and equipment used with construction equipment, including why they need to be fit-for-purpose, calibrated, checked before use, maintained, and stored on completion of activities.

K15: Safety requirements for dealing with pressurised systems, hot and cold systems, stored energy and electrical and electronic systems.

K16: Principles and techniques of material forming, cutting, shaping, joining and fitting.

K17: Methods and techniques for conducting checks and inspections, why typical construction equipment components fail and causes of failure.

K18: Maintenance practices and techniques: planned, preventative, predictive and reactive methods and their frequency.

K19: Methods and techniques to prepare construction plant or equipment for access and removal of components including the use of securing, jacking and lifting aids.

K20: Documentation: methods and requirements - electronic and paper.

K21: Verbal communication techniques. Giving and receiving information. Matching style to audience. Barriers in communication and how to overcome them. Construction engineering terminology.

K22: Training and development techniques.

K23: Principles of equity, diversity, and inclusion in the workplace and the impact on own work.

K24: Principles and techniques of quality assurance in a construction equipment environment.

K25: Principles and techniques of preparing and restoring the work area.

K26: Methods and techniques to disconnect, detach and remove components and ancillary equipment from construction-based equipment.

K27: Common faults, issues and common component replacement requirements on construction based equipment such as hydraulic, electric, mechanical and pneumatic. Problem-solving techniques.

K28: Principles and techniques of replacing and reinstating worn damaged or faulty construction equipment parts.

K29: Methods and techniques to assemble, connect and attach and refit components and ancillary equipment from construction based equipment.

K30: Methods of conducting functional testing on construction based equipment.

K31: Principles and techniques to commission construction based equipment.

K32: Handover procedures and escalation procedures.

Skills

S1: Apply techniques to prepare and restore the work area.

S2: Identify, organise and use resources efficiently to complete tasks.

S3: Prepare, using a range of resources, the plant or equipment for the accessing, handling and removal of components.

S4: Disconnect, detach and remove components and ancillary equipment from construction based equipment.

S5: Check and inspect worn, damaged or faulty parts, components and equipment.

S6: Select and check tools and equipment, including calibration. Use tools and equipment. Store tools and equipment.

S7: Replace and reinstate worn, damaged or faulty construction equipment parts.

S8: Assemble, connect, attach and refit new and repaired construction based equipment components and ancillary equipment.

S9: Complete checks of static and operational performance on repaired construction based equipment prior to handover and re-commissioning to operation.

S10: Perform visual checks on construction based equipment to identify potential issues and problems.

S11: Perform functional testing activities on construction-based equipment

S12: Produce or repair components against given information and specifications that requires fabrication and welding activities.

S13: Install and commission construction-based equipment for operational activities.

S14: Apply basic fault-finding techniques and problem-solving techniques to construction based equipment.

S15: Record or enter information - paper based or electronic, for example job sheets, risk assessments, method statements, equipment service records, test results, handover documents and manufacturers' documentation, asset management records, work sheets, checklists, organisational reporting requirements.

S16: Source and use technical information from sources such as organisational and manufacturers' documentation.

S17: Comply with health and safety procedures in compliance with regulations and standards. Comply with safe systems of work.

S18: Follow procedures in line with environmental and sustainability regulations, standards, and guidance.

S19: Follow equality, diversity and inclusion procedures.

S20: Communicate with others verbally for example colleagues and stakeholders.

S21: Follow handover and escalation procedures.

S22: Follow quality assurance procedures.

S23: Carry out and record learning and development activities.

S24: Perform maintenance tasks on construction equipment.

S25: Select and use PPE.

S26: Apply methods to protect work and working areas from damage.

Behaviours

B1: Seek learning and continuous personal development opportunities.

B2: Considers the environment and sustainability.

B3: Put health and safety first.

B4: Act in a professional manner.

B5: Take responsibility for completing work.

B6: Take account of diversity and inclusion requirements.

Qualifications

English and maths

English and maths qualifications must be completed in line with 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

Wider consultation to go here.

Progression routes

[ST0671 Construction equipment maintenance technician-1.0 L3](#)

Supporting uploads

Mandatory qualification uploads

Mandated degree evidence uploads

Professional body confirmation uploads

Involved employers

TBC

Other involved stakeholders

Subject sector area

4.1 Engineering