

Construction Plant Operative level 2



Training course from
SB Skills Solutions Ltd.



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Course
information

CONSTRUCTION PLANT OPERATIVE

Overview of the role

Check, prepare and operate a number of construction machines (known as plant) that is used onsite in the construction sector including on railways, demolition and utility works (water/gas/electricity supply).

Details of standard

OCCUPATION SUMMARY

This occupation is found in Construction, Infrastructure and the Built Environment.

The broad purpose of the occupation is to check, prepare and operate a number of construction machines (known as plant) that is used onsite in the construction sector including on railways, demolition and utility works (water/gas/electricity supply). This apprenticeship involves the learning on four common types of construction plant and includes a 360-degree excavator, dumper/dump truck, forklift and ride-on roller. The ability to operate a core range of plant onsite will enable apprentices to work across a number of projects and provide the basis of upgrading to more specialist plant such as graders, dozers, demolition plant etc. They can progress to becoming a lead operator, supervisor, site or plant manager, or even set up their own contracting company.

Although each machine can carry out a number of different types of work, the core role of a 360 degree excavator is to 'dig' or 'shape' ground to, for example, form trenches for underground pipes, form earthwork embankments and will further load vehicles such as dumpers/dump trucks with earth that has been dug. The dumper will be loaded with earth from the excavator which is then transported across a site and tips the earth from the machine to form stockpiles or tip into an open trench. A ride in roller 'rolls' and compacts materials such as earth and tarmac for roads, paths etc. by being driven forward and backwards on a defined pattern, which compacts the material according to a specification. Forklifts in essence pick up a range of construction materials (usually on pallets) using the forks of the machine and transports them around a site, placing their load at various locations, sometimes to heights of 17 metres or more.

On this apprenticeship, the operative will further undertake a range of non-operational activities with each machine such as the checking, maintaining and cleaning of their machine. They will also learn to direct and guide other plant and vehicles; for example, directing the driver of a dump truck where to position themselves when being loaded by the excavator and will further learn how to signal and marshal other plant and vehicles undertaking site deliveries, carry out checks on the work they do and finally help load their plant onto or off a transporter when being delivered to another site.

In this occupation, the operative will work on construction and civil engineering sites and will be required to travel to and from the site either on a daily or weekly basis. The operative may work on infrastructure projects such as a new motorway or high-speed rail line, giving the operative the opportunity to be involved in high-profile national projects. They will work alongside other workers such as ground workers who directly help the plant operator by, for example, providing signals and attaching and detaching ancillary equipment. The plant operative however remains in principle ultimately responsible for the execution and completion of the tasks they are undertaking.

In their daily work, an employee in this occupation interacts with a wide range of different stakeholders, including the following: the client; contractors/customers; members of the public; supervisors; other trades/occupations; supporting occupations (banksman, mechanics etc.); managers; suppliers; safety professionals; manufacturers and administration staff. They will work exclusively in an outdoor environment in all seasons and weathers, and at variable times which may include overnight, weekend and anti-social hours work to complete projects which have fixed completion timescales such as roadworks, rail maintenance etc.

An employee in this occupation will be responsible for preparing, setting up and operating a number of designated construction plant types according to a site plan/method of work and in most cases will be under direct and indirect supervision. However, they will be in many cases be the lead operative working with supporting staff and the only worker who has full understanding of their machine's capabilities and limitations. Operating plant is a safety critical activity and means that the actions of the operative has a direct and significant consequence to the safety and welfare of others, including the general public, for which a very high level of burden and responsibility comes with this occupation.

Typical job titles include:

- Concrete pump operator
- Dozer operator
- Dump truck operator
- Equipment operator
- Machine driver
- Machine driver

Note: each of these titles is supported by the machine type e.g. 360 excavator operator, Plant operator

Occupation duties

DUTY

Duty 1 Carry out operator-level servicing and maintenance activities using relevant information sources

Duty 2 Carry out checks, make adjustments and alterations to the machine and preparing the machines for work

Duty 3 Extract and use information from the machine's operator's manual, site plans and drawings and verbal communication

Duty 4 Make requests and procure materials, equipment and tools needed for the operational activities

Duty 5 Manoeuvre the machine on construction and similar sites from parking areas to the working area in all terrain and conditions

Duty 6 Position and set up the machine to carry out a range of given work activities relevant to the machine's capabilities

Duty 7 Organise, control and communicate with others to set up the work and whilst carrying out the work

Duty 8 Operate an excavator 360 according to its intended purpose to carry out working activities according to the contract specifications which will include excavating earth; forming excavations, levelling and shaping ground, forming stockpiles; lifting basic loads; loading vehicles with earth and other materials

Duty 9 Operate a forward tipping dumper according to its intended purpose to carry out working activities according to the contract specifications which will include receiving earth and other loose materials; transport the materials to the discharging area; forming stockpiles of discharged materials; deposit materials into trenches; excavations etc.

Duty 10 Operate a ride-on roller according to its intended purpose to carry out working activities according to the contract specifications which will include compacting loose granular materials; bituminous and tarmac-bound materials

Duty 11 Operate a telescopic handler according to its intended purpose to carry out working activities according to the contract specifications which will include retrieving, lifting and placing loads at height using the forks; lifting and placing suspended loads at height and reach; transporting fork-mounted loads and suspended loads across the site

Duty 12 Monitor their work activity, ensure the machine is working safely and efficiently, and make adjustments or alterations as required

Duty 13 Park, shut down and make safe the machine or machines after work.

Duty 14 Marshall, guide and control other types of similar construction equipment for delivery and transporting activities

Duty 15 Provide assistance when a machine is to be loaded onto and unloaded from an HGV/low loader truck and assist in securing for transport

KSBs

Knowledge

K1: The operator-level servicing, checks and maintenance requirements for the range of plant

K2: How tools and equipment for maintenance, checks, servicing and configuration requirements are to be used and maintained

K3: How to extract information from the operator's manual and electronic readout systems for to prepare and use the machine effectively

K4: How site plans and work programmes are devised, used and disseminated to relevant parties and how they determine how the work is to be carried out

- K5:** What resources and ancillary equipment the machine will require to carry out core operational functions
- K6:** The function and use of all controls, gauges, switches and performance aids to carry out machine operations
- K7:** The characteristics, functions, uses and limitations of use of the relevant item of plant
- K8:** The factors that affect the stability and safe operation of the relevant item of plant
- K9:** How the machine should be manoeuvred and set for operational activities
- K10:** What the hazards and requirements are for manoeuvring the machine around construction sites and working environment
- K11:** The types of planning and communication methods that are relevant and effective in a variety of work situations
- K12:** The purpose and layout of site traffic plans, the working areas, exclusions zones and authorized passages for the movement
- K13:** The types of hand signals and verbal instructions (inc. radio use) required for the movement of plant and vehicles
- K14:** The manoeuvring characteristics, limitations of manoeuvrability and visibility limitations of plant, supporting plant and delivery vehicles
- K15:** How a transporter needs to be set to allow the loading and unloading of plant
- K16:** The dangers and precautions when loading and unloading plant from a vehicle bed
- K17:** The securing procedures required for a range of plant including tracked, wheeled and smooth-drum types
- K18:** The health, safety, wellbeing and environmental requirements and considerations that apply for operational and maintenance activities, such as the control of diesel and oil spills, and reporting procedures for unsafe or environmental situations
- K19:** Relevant legislation and regulations including Health and Safety at Work Act, PUWER, LOLER, COSHH and the requirements for, and devising of static and dynamic risk assessments, method statements, COSHH-based assessments and permit-to-work systems.

Skills

- S1:** Extract information from a variety of sources for basic servicing, checks, operational and maintenance requirements
- S2:** Select and use tools, lubricants and equipment required for operator-level maintenance, checks, servicing and configuration requirements

- S3:** Identify and apply information from a range of sources so that the machine is set for the work and for the work to be carried out
- S4:** Identify and source materials, equipment and consumables for operational requirements
- S5:** Prepare and set the machine for travelling purposes
- S6:** Travel the machine across a range of ground, surfaces and in a range of operational environments and conditions inc. where relevant on inclines, and on and from a transporter
- S7:** Plan, configure and set the machine to carry out the required work activity
- S8:** Operate the machine in accordance with given instructions for excavating, compacting, loading, lifting, moving, discharging and placing activities relevant to the machine being used
- S9:** Identify, use and maintain effective communication with co-workers, supporting staff and supervisors to carry out the work safely and efficiently
- S10:** Carry out checks (through self and with others) that the work being carried out meets the job requirements and timescales
- S11:** Position, configure and shut down the machine when work activities cease and isolate and secure the machine and relevant equipment and structures to prevent unauthorised use or access.
- S12:** Marshall the movements of a range of plant and delivery vehicles for positioning and safe movement requirements
- S13:** Assist in the setting up, configuring and positioning of plant to carry out specific work functions
- S14:** Assist in preparing and securing a transporter and the items of plant during the loading and unloading activity for transportation purposes
- S15:** Work in accordance with health, safety, welfare and environmental requirements, evaluate the working area and activity according to static and dynamic risk assessments and method statements, and report on unsafe situations following organisational procedures

Behaviours

- B1:** Health and Safety-first attitude - Is aware of the importance of following procedures and following guidance of senior members of the team due to the many risks and hazards present in the work environment and acts in accordance to H & S requirements, constantly evaluating the operation for hazards and takes appropriate actions whilst following safe systems of work, avoids taking short cuts that may increase risks
- B2:** Working effectively - Undertakes the work in a reliable and productive manner.
- B3:** Positive customer relationships - Behaves in accordance with the values of the employer; treats customers and stakeholders with courtesy and responds quickly to their requirements, forming and enhancing customer relationships, creating and maintaining effective working and

commercial relationships

B4: Teamwork and independent working - Working and engaging collaboratively and effectively with co-workers of different occupations to achieve requisite results safely and efficiently and safe working, and achieving those results through independence, resourcefulness and ability, operates as an effective team member and under supervision, takes responsibility, accountability and ownership of their own actions and for the completion their own work.

B5: Attitude and discipline - Adopts a professional approach to the work and to colleagues and clients and shows professionalism whilst being polite and courteous to peers, managers, clients, general public and others, questions and challenges others when procedures are not being followed.

Qualifications

English & Maths

Apprentices without level 1 English and maths will need to achieve this level and apprentices without level 2 English and maths will need to take the tests for this level prior to taking the end-point assessment. For those with an education, health and care plan or a legacy statement, the apprenticeship's English and maths minimum requirement is Entry Level 3. A British Sign Language (BSL) qualification is an alternative to the English qualification for those whose primary language is BSL.



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