

Wheeled loading shovel – A21

Learning for CPCS



Outcomes

Through a combination of targeted training and experience, an individual with the wheeled loading shovel will be able to:

Roles and responsibilities	<ul style="list-style-type: none"> Describe the nature of the sector of industry and their role and responsibilities as a plant operator
Preparing for work	<ul style="list-style-type: none"> Name and explain the purpose of principal components, the basic construction, controls and terminology Conform with manufacturer's requirements as per the operator's handbook, other types of information source and relevant regulations and legislation Undertake all pre-use checks
Travelling and manoeuvring	<ul style="list-style-type: none"> Configure and set for site and highway travel Travel over rough, undulating ground, substantial inclines and level surfaces; laden and unladen Manoeuvre in confined spaces
Setting up for work	<ul style="list-style-type: none"> Configure and set for extraction and loading duties Explain actions required for hazards, underground and overhead services
Working tasks	<ul style="list-style-type: none"> Extract differing types of materials from stockpiles and other sources Form stockpiles of segregated materials and construct (temporary) ramps Sort and place materials into transporting vehicles and hoppers Spread and level ground and materials
Shutting down	<ul style="list-style-type: none"> Carry out shut down and securing procedures Explain the loading and unloading procedures for machine transporting

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Syllabus

Learning outcome	Training content	
<ul style="list-style-type: none"> Describe the nature of the sector of industry and their role and responsibilities as a plant operator 	<ul style="list-style-type: none"> Industry type Customer / client needs Sector contribution Role Reporting structures Lifelong skills Working practices Social responsibilities 	<ul style="list-style-type: none"> Communication with colleagues / management / other trades Health and Safety at Work Act Environmental issues Other trades
<ul style="list-style-type: none"> Name and explain the purpose of principal components, the basic construction, controls and terminology 	<ul style="list-style-type: none"> Differing types Functions and applications Power units Hydraulic systems Transmissions Buckets 	<ul style="list-style-type: none"> Chassis / steering / brakes Stability / ground pressure Attachments Safety systems ROPS / FOPS
<ul style="list-style-type: none"> Conform with manufacturer's requirements as per the operator's handbook, other types of information source and relevant regulations and legislation 	<ul style="list-style-type: none"> Operator's Manual Machine decals Health and Safety at Work Act PPE Codes of Practice Site plans / drawings 	<ul style="list-style-type: none"> Method statements Risk assessments / COSHH Inspection and reporting forms / procedures
<ul style="list-style-type: none"> Undertake all pre-use checks 	<ul style="list-style-type: none"> Regular and non-scheduled maintenance procedures 	<ul style="list-style-type: none"> Sequence of pre-use checks Defect reporting
<ul style="list-style-type: none"> Configure and set for highway and site travel 	<ul style="list-style-type: none"> Driving controls Attachments / accessories Travel position 	<ul style="list-style-type: none"> Site travel Visibility Road travel / Road Traffic Act
<ul style="list-style-type: none"> Travel over rough, undulating ground, substantial inclines and level surfaces; laden and unladen 	<ul style="list-style-type: none"> Travel routes Slopes / inclines Direction of travel Traction / aids Ground conditions Hazards 	<ul style="list-style-type: none"> Working area Restarting on inclines Load integrity Environment protection / minimise damage
<ul style="list-style-type: none"> Manoeuvre in confined spaces 	<ul style="list-style-type: none"> Visibility Limitations of vision Protection of ground / tight turns 	<ul style="list-style-type: none"> Environmental / noise / fumes Height restrictions

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Syllabus (continued)



Learning outcome	Training content	
<ul style="list-style-type: none"> • Configure and set for extraction and loading duties 	<ul style="list-style-type: none"> • Type of ground • Required specification • Equipment / bucket size / type • Spoil segregation 	<ul style="list-style-type: none"> • Machine positioning • Spoil placing • Site markings • Loading vehicles positioning
<ul style="list-style-type: none"> • Explain actions required for hazards, underground and overhead services 	<ul style="list-style-type: none"> • Types of typical services • Warning / identification systems 	<ul style="list-style-type: none"> • Reporting procedures for damage to services • Minimum distances and clearances
<ul style="list-style-type: none"> • Extract differing types of materials from stockpiles and other sources 	<ul style="list-style-type: none"> • Types of materials • Machine positioning • Traction / aids • Face extraction methods • Productive cycles of operation 	<ul style="list-style-type: none"> • Hazards in working area • Environmental factors • Stability • Face / stockpile integrity
<ul style="list-style-type: none"> • Form stockpiles of segregated materials and construct (temporary) ramps 	<ul style="list-style-type: none"> • Types of materials • Spoil placing • Angles of repose • Productive cycles of operation 	<ul style="list-style-type: none"> • Cleaning working area • Stability • Ramp incline • Ramp integrity and consolidation
<ul style="list-style-type: none"> • Sort and place materials into transporting vehicles and hoppers 	<ul style="list-style-type: none"> • Types of materials • Machine positioning • Signals / communication • Load / material documentation • Material densities • Stability 	<ul style="list-style-type: none"> • Loading vehicle stability and compatibility • Minimum overspill • Cleaning loading area • Productive cycles of operation
<ul style="list-style-type: none"> • Spread and level ground and materials 	<ul style="list-style-type: none"> • Specification • Attachments • Environmental factors 	<ul style="list-style-type: none"> • Multipurpose / clamshell front buckets
<ul style="list-style-type: none"> • Carry out shut down and securing procedures 	<ul style="list-style-type: none"> • Shut down procedures • Security 	<ul style="list-style-type: none"> • Parking and positioning
<ul style="list-style-type: none"> • Explain the loading and unloading procedures for machine transporting 	<ul style="list-style-type: none"> • Compatibility • Positioning 	<ul style="list-style-type: none"> • Security • Types of transporter

Note: The listed training content should not be considered exhaustive and subjects may be added to reflect the individuals' working environment.

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Safety critical

Emphasis to be placed on the following topics:

Topic	Emphasis
<ul style="list-style-type: none">• Visibility prior to and during reversing	<ul style="list-style-type: none">• Constant and full visibility before and during manoeuvring and types of visibility aids and their limitations and weaknesses
<ul style="list-style-type: none">• Stability of the machine	<ul style="list-style-type: none">• High centre of gravity with loaded buckets – buckets to be kept low at all times (except for working)
<ul style="list-style-type: none">• Quick-hitch systems	<ul style="list-style-type: none">• Manufacturer's procedures must be strictly adhered to. Security of attachments to be fully checked prior to use

Duration / Ratios

To allow effective learning, these training times are recommended for this category. Candidates must be profiled to establish learning needs. Durations should be of a length to ensure the learning outcomes are met.

Experience	Accumulated hours
<ul style="list-style-type: none">• Novice operators with no industry or machine experience	35
<ul style="list-style-type: none">• Novice operators with industry experience but no machine experience	28
<ul style="list-style-type: none">• Operators with unrelated (shovel) machine experience	14
<ul style="list-style-type: none">• Operators with similar (shovel) machine experience	7

All candidates must have received the equivalent to 7 hours of site safety and induction training

To allow effective learning, the listed candidate / machine / instructor ratio is the maximum recommended for this category

4 candidates : 2 machine: 1 instructor

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Resources

Practical equipment	Theory equipment
<ul style="list-style-type: none">• Wheeled loading shovel that meets current legislation• Operator’s manual for the machine(s)• Sufficient area of ground suitable for extracting• Slopes, stockpiles of materials	<ul style="list-style-type: none">• PUWER 1998 Regulations• HSE GS6• Operator’s Manual• Specifications for types of wheeled loading shovels
<p>PLUS</p> <ul style="list-style-type: none">• Rear tipping vehicle or trailer for loading into	<p>PLUS</p> <ul style="list-style-type: none">• Suitable room for theory training purposes• Welfare and rest facilities during training.
<p>PLUS</p> <ul style="list-style-type: none">• Suitable PPE• Risk assessment for all areas where training is occurring	

Category

Category description and types

CPCS defines a category as an item of plant or equipment used within the construction or allied industries and worked in accordance with the manufacturer’s basic design. Although this category can have varying uses within industry and used with many attachments, for CPCS training and assessment standards, the descriptions reflect basic core use.

To identify a machine within this category, a typical wheeled loading shovel would normally have the listed features and be used within the described characteristics.

Category features	Category characteristics
<ul style="list-style-type: none">• Multi-axled wheeled articulated (in most cases) chassis containing a centrally mounted operating position, power, transmission, hydraulic and electrical units• Front loader arms located mounted on the front section of the machine with a rotating and removable front loader bucket, all hydraulically operated	<ul style="list-style-type: none">• Able to travel in forward and reverse and change direction during travel with most types having all-wheel drive• Can travel and operate on uneven and loose ground and slopes• Carry out extraction duties in a linear motion using the front bucket within the confines of the operating depth and height• Can place materials by manoeuvring the machine within the confines of the operating depth and height