

Motorised scraper – A24

Learning for CPCS



Outcomes

Through a combination of targeted training and experience, an individual with the motorised scraper 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 travel• Travel over rough, undulating ground, substantial inclines and level surfaces – loaded and unloaded• Manoeuvre in confined spaces whilst carrying loads |
| Setting up for work | <ul style="list-style-type: none">• Ensure the suitability of the loading and depositing area• Explain actions required for hazards, underground and overhead services• Position and set to load and deposit materials / ground |
| Working tasks | <ul style="list-style-type: none">• Excavate various types of ground• Transfer and deposit loads to different locations• Form stockpiles of material• Grade, spread and level ground and materials• Explain push-loading techniques |
| 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 Chassis / steering / tyres | <ul style="list-style-type: none"> Stability / ground pressure Carrying capacities Types of bowls / ejector / elevator systems Attachments 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 | <ul style="list-style-type: none"> Method statements Risk assessments / COSHH Inspection and reporting forms / procedures Site plans / drawings |
| <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 travel | <ul style="list-style-type: none"> Driving controls Attachments Security Driving position | <ul style="list-style-type: none"> Visibility Bowl position Road Traffic Act |
| <ul style="list-style-type: none"> Travel over rough, undulating ground, substantial inclines and level surfaces – loaded and unloaded | <ul style="list-style-type: none"> Driving controls Ground conditions Traction / aids Visibility Hazards | <ul style="list-style-type: none"> Inclines / starting on inclines Environment protection / minimise damage Working area |
| <ul style="list-style-type: none"> Ensure the suitability of the loading and depositing area | <ul style="list-style-type: none"> Access / egress routes Ground type / condition Hazards | <ul style="list-style-type: none"> Site markings Turning areas |

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Syllabus (continued)



| Learning outcome | Training content | |
|---|--|--|
| <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 • Reporting procedures for damage to services | <ul style="list-style-type: none"> • Warning / identification systems • Minimum distances and clearances |
| <ul style="list-style-type: none"> • Position and set to load and deposit materials / ground | <ul style="list-style-type: none"> • Specification • Types of ground • Machine suitability • Access / egress • Machine capacity | <ul style="list-style-type: none"> • Stability • Bowl / scraper settings • Visibility • Environmental conditions |
| <ul style="list-style-type: none"> • Excavate various types of ground | <ul style="list-style-type: none"> • Scraping controls • Speeds • Lengths and depths • Traction • Techniques / methods • Feathering • Load distribution | <ul style="list-style-type: none"> • Productive cycles of operation • Hazards • Measuring levels and centres • Environmental considerations |
| <ul style="list-style-type: none"> • Transfer and deposit loads to different locations | <ul style="list-style-type: none"> • Travel routes • Ground types • Haul route procedures • Materials / vehicle protection • Carrying capacities • Speed limits | <ul style="list-style-type: none"> • Hazards • Signalling / following instructions • Efficiency • Visibility • Environmental conditions |
| <ul style="list-style-type: none"> • Form stockpiles of material | <ul style="list-style-type: none"> • Discharge areas • Specification • Ground conditions / ramps • Techniques / methods • Material jams | <ul style="list-style-type: none"> • Discharging on inclines • Fully emptying bowls • Visibility • Signalling / following instructions |
| <ul style="list-style-type: none"> • Grade, spread and level ground and materials | <ul style="list-style-type: none"> • Discharge areas • Specification | <ul style="list-style-type: none"> • Minimising spillage |
| <ul style="list-style-type: none"> • Explain push-loading techniques | <ul style="list-style-type: none"> • Pusher types • Scraper / pusher compatibility | <ul style="list-style-type: none"> • Signalling procedures • Techniques • Hazards |

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Syllabus (continued)



| Learning outcome | Training content | |
|---|---|--|
| <ul style="list-style-type: none">• Carry out shut down and securing procedures | <ul style="list-style-type: none">• Bowl cleanliness• Shut down procedures | <ul style="list-style-type: none">• Security• 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">• Types of transporter• Security |

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">• Reversing procedures | <ul style="list-style-type: none">• All reversing and safety aids to be fully functional – use of signaller mandatory on most working areas |

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 | 70 |
| <ul style="list-style-type: none">• Novice operators with industry experience but no machine experience | 62 |
| <ul style="list-style-type: none">• Operators with unrelated (earthmoving) machine experience | 42 |
| <ul style="list-style-type: none">• Operators with similar (earthmoving) machine experience | 28 |

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">• Suitable motorised scraper that meets current legislation• Operator's manual for the machine(s)• Sufficient area of ground for driving / manoeuvring and excavating• Slopes and rough terrain• Load depositing areas <p>PLUS</p> <ul style="list-style-type: none">• Suitable PPE• Risk assessment for all areas where training is occurring | <ul style="list-style-type: none">• PUWER 1998 Regulations• HSE GS6• Operator's Manual• Specifications for types of motorised scrapers• PLUS <p>Suitable room for theory training purposes</p> <ul style="list-style-type: none">• Welfare and rest facilities during training. |

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 motorised scraper would normally have the listed features and be used within the described characteristics.

| Category features | Category characteristics |
|---|--|
| <ul style="list-style-type: none">• Articulated multi-axled two-piece chassis• The front section contains the driving position; power, hydraulic and electrical units• The rear section containing the bowl, scraping and ejector mechanisms• Dual engine units have an additional power and transmission unit in the rear section | <ul style="list-style-type: none">• Able to travel in forward and reverse and change direction during travel by articulating the chassis• Can travel and operate on uneven and loose ground and slopes• Excavates materials by scraping the material to depth and storing the material in the bowl• Deposits the load whilst moving by the ejecting mechanism |