

Crawler – tractor/side boom – A35

Learning for CPCS



Outcomes

Through a combination of targeted training and experience, an individual with the side boom 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 travel Travel over rough, undulating ground, substantial inclines and level surfaces Manoeuvre in confined spaces
Setting up for work	<ul style="list-style-type: none"> Configure and set for lifting duties Explain rigging and de-rigging procedures Explain actions required for hazards, underground and overhead services
Working tasks	<ul style="list-style-type: none"> Programme / set-up Rated Capacity Indicators for lifting duties Lift various loads using full radius capabilities Accurately place loads Minimise the swinging of loads Move loads through machine travel Comply with signals and instructions Maintain safe working situations
Completing work	<ul style="list-style-type: none"> Prepare the side-boom in preparation of movement post-lifting duties
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 / tracks 	<ul style="list-style-type: none"> Stability / ground pressure Booms / jibs Hoisting gear / ropes Safety systems ROPS / FOPS Attachments
<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 Method statements 	<ul style="list-style-type: none"> Lifting requirements and limitations Risk assessments / COSHH Inspection and reporting forms / procedures Lift plans
<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 site travel 	<ul style="list-style-type: none"> Steering controls Attachments / accessories Travel position Site travel 	<ul style="list-style-type: none"> Boom / jib positioning Visibility Road Traffic Act Stowage of accessories
<ul style="list-style-type: none"> Travel over rough, undulating ground, substantial inclines and level surfaces 	<ul style="list-style-type: none"> Travel routes Slopes / inclines Direction of travel Traction Ground conditions 	<ul style="list-style-type: none"> Hazards Working area 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 Hazards

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Syllabus (continued)

Learning outcome	Training content	
<ul style="list-style-type: none"> • Configure and set for lifting duties 	<ul style="list-style-type: none"> • Positioning • Required configuration (lift plan) • Lift controls • Environmental conditions • Hazards 	<ul style="list-style-type: none"> • Counterweights • Levelling / inclines • Site markings • Stability / ground pressure • Falls of rope
<ul style="list-style-type: none"> • Explain rigging and de-rigging procedures 	<ul style="list-style-type: none"> • Types of extensions • Procedures • Hazards • Supporting methods 	<ul style="list-style-type: none"> • Storage • Testing / certification • Duties / RCI set-up
<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"> • Programme / set-up Rated Capacity Indicators for lifting duties 	<ul style="list-style-type: none"> • Types of RCI • Regulations / legislation • Principles of operation • Lifting duties • Number of falls 	<ul style="list-style-type: none"> • Function and application of common types • Testing, setting / programming for different duties
<ul style="list-style-type: none"> • Lift various loads using full radius capabilities 	<ul style="list-style-type: none"> • Duties charts • Lifting accessories and slinging requirements • Lift plans • Lifting controls • Boom deflection • Signalling procedures • Stability / counterweight 	<ul style="list-style-type: none"> • Hazards • Trial lifts • Load stability / security • Tandem lifting • Visibility • Environmental conditions • Load swings • Falls of rope
<ul style="list-style-type: none"> • Accurately place loads 	<ul style="list-style-type: none"> • Ground conditions / hazards • Visibility • Stability • Load swings 	<ul style="list-style-type: none"> • Signalling / following instructions • Out-of-sight lifts • Protection of lifting accessories
<ul style="list-style-type: none"> • Minimise the swinging of loads 	<ul style="list-style-type: none"> • Rope length • Techniques • Slew speeds 	<ul style="list-style-type: none"> • Observation / anticipation • Stability

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Syllabus (continued)

Learning outcome	Training content	
<ul style="list-style-type: none">• Move loads through machine travel	<ul style="list-style-type: none">• Duties charts• Configuration• Stability• Route / ground condition• Load integrity / security	<ul style="list-style-type: none">• Load swing• Visibility• Hazards• Regulations / legislation
<ul style="list-style-type: none">• Comply with signals and instructions	<ul style="list-style-type: none">• Methods and types of signals• Methods of verbal instruction• Multiple signalling	<ul style="list-style-type: none">• Electronic communication / setting-up• Codes of Practice• Radio protocol
<ul style="list-style-type: none">• Maintain safe working situations	<ul style="list-style-type: none">• Stability• Load swings	<ul style="list-style-type: none">• Load security• Hazards
<ul style="list-style-type: none">• Prepare the side-boom in preparation of movement post-lifting duties	<ul style="list-style-type: none">• Stowage of materials / accessories	<ul style="list-style-type: none">• Travel configuration
<ul style="list-style-type: none">• Carry out shut down and securing procedures	<ul style="list-style-type: none">• Shut down procedures• Parking and positioning	<ul style="list-style-type: none">• Security
<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">• Lift plans / method statements	<ul style="list-style-type: none">• Lift plan types and requirements and the need for lift planning. Adherence to the lift plan as constructed by a competent person

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 (lifting) machine experience	21
<ul style="list-style-type: none">• Operators with similar (lifting) machine experience	14

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 machines: 1 instructor

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Resources

Practical equipment	Theory equipment
<ul style="list-style-type: none">• Side boom that meets current legislation• Operator’s manual for the crane• Different types of loads• Lifting accessories• Sufficient area of ground suitable for placing loads at various heights and radius <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• LOLER 1998 Regulations• HSE GS6• BS 7121 (parts 1, 2 and 3)• Operator’s Manual <p>• Specifications for types of side booms</p> <p>PLUS</p> <ul style="list-style-type: none">• Suitable room for theory training purposes• 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

To identify a machine within this category, a typical crawler-tractor/side-boom would normally have the listed features and be used within the described characteristics.

Category features	Category characteristics
<ul style="list-style-type: none">• Chassis containing a centrally mounted operating position, power, transmission, hydraulic and electrical units• Linked undercarriage with tracked drive system• Raisable side-mounted non-slewing ‘A’ framed lifting boom, hydraulically operated• Winch operated lifting metal-stranded hoist rope mounted on pulleys• Hook block suspended by hoist ropes and pulleys and the end of the boom	<ul style="list-style-type: none">• Able to travel in forward and reverse and change direction during travel by track speed differentia• Can travel and operate on uneven and loose ground and slopes• Lift loads by vertically raising the hook block• Places loads within the confines of the operating radius, depth and height• Travel with loads suspended from the hook block