

# Concrete pump - Truck mounted boom - A06 Learning for CPCS



## Outcomes

Through a combination of targeted training and experience, an individual with the Truck mounted boom concrete pump will be able to:

<b>Roles and responsibilities</b>	<ul style="list-style-type: none"> <li>Describe the nature of the sector of industry and their role and responsibilities as a plant operator</li> </ul>
<b>Preparing for work</b>	<ul style="list-style-type: none"> <li>Name and explain the purpose of principal components, the basic construction, controls and terminology</li> <li>Conform with manufacturer's requirements as per the operator's handbook, other types of information source and relevant regulations and legislation</li> <li>Explain all relevant documentation</li> <li>Undertake all pre-use checks (host vehicle and pumping unit)</li> </ul>
<b>Travelling and manoeuvring</b>	<ul style="list-style-type: none"> <li>Configure and set for travel (site and highway)</li> <li>Travel the vehicle to an area of work</li> <li>Manoeuvre in confined spaces</li> </ul>
<b>Setting up for work</b>	<ul style="list-style-type: none"> <li>Position and configure the vehicle for pumping duties</li> <li>Deploy the outriggers to specification (where applicable)</li> <li>Arrange, anchor and secure all pipes and lines</li> <li>Confirm a given mix is able to be pumped</li> <li>Arrange, use and comply with communication procedures</li> <li>Direct the loading/mixer vehicle to position</li> <li>Explain action required for hazards, underground and overhead services</li> </ul>
<b>Working tasks</b>	<ul style="list-style-type: none"> <li>Pump and control materials accurately to the desired pour location</li> <li>Explain how blockages occur and give solution methods</li> <li>Maintain safe working situations</li> </ul>
<b>Completing work</b>	<ul style="list-style-type: none"> <li>Complete end-of use cleaning procedures</li> </ul>
<b>Shutting down</b>	<ul style="list-style-type: none"> <li>Carry out shut down and securing procedures</li> <li>Explain the road traffic requirements</li> </ul>

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### Syllabus

Learning outcome	Training content	
<ul style="list-style-type: none"> <li>Describe the nature of the sector of industry and their role and responsibilities as a plant operator</li> </ul>	<ul style="list-style-type: none"> <li>Industry type</li> <li>Customer / client needs</li> <li>Sector contribution</li> <li>Role</li> <li>Communication with colleagues / management / other trades</li> </ul>	<ul style="list-style-type: none"> <li>Lifelong skills</li> <li>Health and Safety at Work Act</li> <li>Environmental issues</li> <li>Other trades</li> <li>Working practices</li> <li>Social responsibilities</li> <li>Reporting structures</li> </ul>
<ul style="list-style-type: none"> <li>Name and explain the purpose of principal components, the basic construction, controls and terminology</li> </ul>	<ul style="list-style-type: none"> <li>Differing Types</li> <li>Function and applications</li> <li>Power Hydraulic systems units</li> <li>Chassis / steering / tyres</li> <li>Stability</li> </ul>	<ul style="list-style-type: none"> <li>Booms</li> <li>Pump types</li> <li>Safety systems</li> <li>Slewing arrangements</li> <li>Attachments</li> <li>Remote control units</li> </ul>
<ul style="list-style-type: none"> <li>Conform with manufacturer's requirements as per the operator's handbook, other types of information source and relevant regulations and legislation</li> </ul>	<ul style="list-style-type: none"> <li>Operator's Manual</li> <li>Duties Charts</li> <li>Ground loading charts</li> <li>Machine decals</li> <li>Health and Safety at Work Act</li> <li>PPE</li> <li>Codes of Practice</li> <li>Lift plans</li> </ul>	<ul style="list-style-type: none"> <li>Site plans / drawings</li> <li>Lifting requirements and limitations</li> <li>Method statements</li> <li>Risk assessments / COSHH</li> <li>Inspection and reporting forms / procedures</li> </ul>
<ul style="list-style-type: none"> <li>Explain all relevant documentation</li> </ul>	<ul style="list-style-type: none"> <li>Test certificates</li> </ul>	<ul style="list-style-type: none"> <li>Thorough examination certificates</li> </ul>
<ul style="list-style-type: none"> <li>Undertake all pre-use checks (host vehicle and pumping unit)</li> </ul>	<ul style="list-style-type: none"> <li>Regular and non-scheduled maintenance procedures</li> </ul>	<ul style="list-style-type: none"> <li>Sequence of pre-use checks</li> <li>Defect reporting</li> </ul>
<ul style="list-style-type: none"> <li>Configure and ready for travel (site and highway)</li> </ul>	<ul style="list-style-type: none"> <li>Driving controls</li> <li>Attachments</li> <li>Driving position</li> </ul>	<ul style="list-style-type: none"> <li>Visibility</li> <li>Road Traffic Act</li> <li>Security</li> </ul>
<ul style="list-style-type: none"> <li>Travel the vehicle to an area of work</li> </ul>	<ul style="list-style-type: none"> <li>Driving controls</li> <li>Ground conditions</li> <li>Traction</li> <li>Axle loadings</li> <li>Hazards</li> <li>Working area</li> </ul>	<ul style="list-style-type: none"> <li>Site route</li> <li>Access / egress</li> <li>Environment protection / minimise damage</li> <li>Road travel</li> </ul>

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**Syllabus (continued)**



Learning outcome	Training content	
<ul style="list-style-type: none"> <li>• Manoeuvre in confined spaces</li> </ul>	<ul style="list-style-type: none"> <li>• Visibility</li> <li>• Limitations of vision</li> <li>• Height restrictions</li> <li>• Protection of ground / tight turns</li> </ul>	<ul style="list-style-type: none"> <li>• Environmental / noise / fumes</li> <li>• Hazards</li> </ul>
<ul style="list-style-type: none"> <li>• Position and configure the vehicle for pumping duties</li> </ul>	<ul style="list-style-type: none"> <li>• Vehicle positioning</li> <li>• Stability</li> <li>• Required configuration (lift plan)</li> <li>• Boom configuration / routes</li> <li>• Hazards</li> </ul>	<ul style="list-style-type: none"> <li>• Environmental conditions</li> <li>• Boom controls</li> <li>• Levelling / inclines</li> <li>• Site markings</li> <li>• Environmental considerations</li> </ul>
<ul style="list-style-type: none"> <li>• Deploy the outriggers to specification (where applicable)</li> </ul>	<ul style="list-style-type: none"> <li>• Types of outriggers</li> <li>• Support conditions</li> <li>• Bearing pressure</li> <li>• Footprint</li> </ul>	<ul style="list-style-type: none"> <li>• Packing / load spreading</li> <li>• Inclines / uneven ground</li> </ul>
<ul style="list-style-type: none"> <li>• Arrange, anchor and secure all pipes and lines</li> </ul>	<ul style="list-style-type: none"> <li>• Supporting piping / hoses / boom</li> <li>• Anchor types</li> <li>• Anchoring methods</li> </ul>	<ul style="list-style-type: none"> <li>• Securing types and methods</li> <li>• Creating pipelines</li> <li>• Hazards and defects</li> </ul>
<ul style="list-style-type: none"> <li>• Confirm a given mix is able to be pumped</li> </ul>	<ul style="list-style-type: none"> <li>• Principles</li> <li>• Different types of mixes</li> <li>• Specifications</li> </ul>	<ul style="list-style-type: none"> <li>• Uses / applications</li> <li>• Time factors</li> <li>• Hazards</li> </ul>
<ul style="list-style-type: none"> <li>• Arrange, use and comply with communication procedures</li> </ul>	<ul style="list-style-type: none"> <li>• Methods and types of signals</li> <li>• Methods of verbal instruction</li> <li>• Radio protocol</li> </ul>	<ul style="list-style-type: none"> <li>• Electronic communication / setting-up</li> <li>• Codes of Practice</li> </ul>
<ul style="list-style-type: none"> <li>• Direct the loading / mixer vehicle to position</li> </ul>	<ul style="list-style-type: none"> <li>• Signals</li> <li>• Ground conditions</li> <li>• Visibility</li> </ul>	<ul style="list-style-type: none"> <li>• Access / egress routes</li> <li>• Hazards</li> </ul>
<ul style="list-style-type: none"> <li>• Explain actions required for hazards, underground and overhead services</li> </ul>	<ul style="list-style-type: none"> <li>• Types of typical services</li> <li>• Warning / identification systems</li> </ul>	<ul style="list-style-type: none"> <li>• Reporting procedures for damage to services</li> <li>• Minimum distances and clearances</li> </ul>

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## Learning for CPCS

### Syllabus (continued)

Learning outcome	Training content	
<ul style="list-style-type: none"> <li>Pump and control materials accurately to the desired pour location</li> </ul>	<ul style="list-style-type: none"> <li>Flow rates</li> <li>Signalling / communication</li> <li>Noise</li> <li>Visibility</li> </ul>	<ul style="list-style-type: none"> <li>Flow controls</li> <li>Working efficiently</li> <li>Hazards</li> <li>Environmental considerations</li> </ul>
<ul style="list-style-type: none"> <li>Explain how blockages occur and give solution methods</li> </ul>	<ul style="list-style-type: none"> <li>Type of blockages</li> <li>Communication of blockages</li> <li>Shut-down and re-starting methods</li> <li>Cleaning procedures</li> </ul>	<ul style="list-style-type: none"> <li>Cleaning methods</li> <li>Components subject to blockages</li> <li>Hazards</li> <li>Environmental considerations</li> </ul>
<ul style="list-style-type: none"> <li>Maintain safe working situations</li> </ul>	<ul style="list-style-type: none"> <li>Stability</li> <li>Visibility</li> </ul>	<ul style="list-style-type: none"> <li>Pipe / hose security</li> <li>Hazards</li> </ul>
<ul style="list-style-type: none"> <li>Complete end-of use cleaning procedures</li> </ul>	<ul style="list-style-type: none"> <li>Components</li> <li>Cleaning equipment</li> <li>Cleaning area</li> <li>Methods and procedures</li> </ul>	<ul style="list-style-type: none"> <li>Hazards</li> <li>Environmental considerations / waste disposal</li> </ul>
<ul style="list-style-type: none"> <li>Carry out shut down and securing procedures</li> </ul>	<ul style="list-style-type: none"> <li>Shut down procedures</li> <li>Security</li> </ul>	<ul style="list-style-type: none"> <li>Parking and positioning</li> </ul>
<ul style="list-style-type: none"> <li>Explain the road traffic requirements</li> </ul>	<ul style="list-style-type: none"> <li>Transport operator licensing / requirements</li> <li>Driver licensing</li> <li>Documentation</li> <li>Vehicle compliance</li> </ul>	<ul style="list-style-type: none"> <li>Driver training / re-training</li> <li>Axle loadings</li> <li>Accident / incident reporting</li> <li>Hazardous loads</li> </ul>

**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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## Learning for CPCS

### Safety critical



Emphasis to be placed on the following topics:

Topic	Emphasis
<ul style="list-style-type: none"> <li>• Cleaning procedures / blockages</li> </ul>	<ul style="list-style-type: none"> <li>• Planned and controlled use of cleaning balls and compressed air</li> </ul>
<ul style="list-style-type: none"> <li>• Lift plans / method statements</li> </ul>	<ul style="list-style-type: none"> <li>• Lift plan types and requirements and the need for lift planning</li> <li>• Adherence to the lift plan as constructed by a competent person</li> </ul>

### 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"> <li>• Novice operators with no industry or machine experience</li> </ul>	35
<ul style="list-style-type: none"> <li>• Novice operators with industry experience but no machine experience</li> </ul>	28
<ul style="list-style-type: none"> <li>• Operators with unrelated (pumping) machine experience</li> </ul>	21
<ul style="list-style-type: none"> <li>• Operators with similar (pumping) machine experience</li> </ul>	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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## Learning for CPCS

### Resources



Practical equipment	Theory equipment
<ul style="list-style-type: none"> <li>• Boom Concrete pump (truck mounted) that meets current legislation</li> <li>• Operator's manual for the host vehicle and pump</li> <li>• Uneven terrain for travelling and sufficient flat area of ground suitable for work</li> <li>• Structure and works to pump materials</li> </ul> <p><b>PLUS</b></p> <ul style="list-style-type: none"> <li>• Suitable PPE</li> <li>• Risk assessment for all areas where training is occurring</li> </ul>	<ul style="list-style-type: none"> <li>• PUWER 1998 Regulations</li> <li>• LOLER 1998 Regulations</li> <li>• HSE GS6</li> <li>• BS 7121 (parts 1, 2 and 3)</li> <li>• Operator's Manual</li> <li>• Specifications for types of concrete pumps</li> </ul> <p><b>PLUS</b></p> <ul style="list-style-type: none"> <li>• Suitable room for theory training purposes</li> <li>• Welfare and rest facilities during training</li> </ul>

### 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, for CPCS training and assessment standards, the descriptions reflect basic core use.

To identify a machine within this category, a typical truck mounted concrete pump would normally have the listed features and be used within the described characteristics.

Category features	Category characteristics
<ul style="list-style-type: none"> <li>• Commercial vehicle-based multi-axled chassis containing a forward driving position; power, transmission hydraulic and electrical units</li> <li>• Multi-knuckled foldable boom with attached pipework, hydraulically operated</li> <li>• PTO driven piston type pumping unit with a hopper to externally receive a pumpable material</li> </ul>	<ul style="list-style-type: none"> <li>• Able to travel in forward and reverse and change direction during travel by steering the axles</li> <li>• Travels on hard surfaces with some types having off-road capability</li> <li>• Pumps loads via the hopper and pump through the pipework attached to the extended and slewable boom to the desired pour location</li> </ul>