



Learning Outcomes for N211 Concrete Pump

Learning Outcome	Instructor Notes
Have a basic understanding of the industry, the dangers of working in the industry and their responsibilities as an operator	Explain the structure of the course and the need to comply with your instructions at all times • Explain that the industry is very dangerous and that only safe working practices will be adopted throughout the course • Personal safety is not just the absence of physical injury, can be affected by noise, vibration and can lead to lost time, lost income, expense for the employer etc • Explain Health & Safety at Work Act 1974, Restraining systems in accordance with risk assessment, PUWER Regulations, MHSAWR, COSHH Regulations, Noise at work Regulations, Work at Height Regulations, CDM Regulations, Vibration at Work Regulations, Road Traffic Act, HSG150, GS6, CPA Safe use of Concrete Pumps good practice guide, Risk assessments, Method statements, ACOP and other relevant legislation • Remind learners that operators have moral obligations, legal obligations and environmental obligations • Explain reporting structures, the importance of good communication on site (colleagues, management, and other workers on site)
Have a working knowledge of the manufacturer's handbook for the particular machine to be used	Explain the importance of the manufacturer's handbook and that it will be used throughout the course. Stress that it has to be used in alliance with all relevant legislation
Be able to locate and identify the major components of the machine and explain their functions	Explain the different types of components • Explain the function of the components and how they all contribute to the safety and operational integrity of the machine • Explain power units • Concrete pump • Safety locking devices and pins • Placing hose • Guards • Compressor • Receiving hopper • Remote control • rams • Delivery hoses • Attachments • Boom • Outriggers • Blanking devices • Sponge / rubber cleaning device • Catching attachments • Different delivery lines i.e. metal single wall / double wall • Flexible rubber type • Interlock switch • Emergency stops and other safety systems etc
Be able to locate and identify key controls and explain their functions	Explain the different controls and their functions • Explain how correct and sympathetic use of the controls can ensure safety of the machine and help prolong machine life by reducing wear and tear. Refer to the manufacturer's handbook, codes of practice, decals etc
Conduct all pre-operational and running checks in accordance with manufacturer's and legislative requirements	Explain the importance of pre-operational and running checks and legal implications of using a machine without having checked it. Go through the sequence of checking. Use manufacturer's handbook, check sheet, defect reporting procedure, relevant documentation including the Inspection certificate / Certificate of Conformity



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Identify and maintain PPE appropriate for concrete pump use	Explain that PPE should include the following: Impervious safety boots, ear defenders, face / eye protection, dust mask if appropriate, impervious gloves / gauntlets, hard hat overalls etc
Conduct all necessary safety checks at the work area	Explain and demonstrate the following fully: <ul style="list-style-type: none">• Walk the site and highlight or remove any hazards• Underground Hazards• Overhead cables• Ground conditions• Confirm that the condition of the site is safe to work in• Report any hazards that cannot be removed• Set out warning signs and barriers• Exclusion zones 2x length of delivery hose• Working positions and pumping distances• Eliminate reversing tasks
Prepare the concrete pump for use and operate machinery safely and efficiently	Explain and demonstrate all safety procedures to be adopted including: <ul style="list-style-type: none">• Correct starting procedure• Mount and dismount the machine• Grouting up• Correct operating procedure for different pouring distances• Placement of concrete delivery vehicle• Identify and report any defects• Correct loading procedure• Correct pumping procedure• Check for correct pumping pressure• Correct procedure for adjusting / changing different attachments• Follow all safe working procedures• Set up exclusion zone around delivery pipe• Waste disposal arrangements• Check electrical safety, overhead / underground services• Identify maximum outreach and stability• Safe position when concrete vehicle is reversing• Control concrete flow from vehicle• Radio protocol and signals
Safe un-blocking and re-connecting procedures	Explain and demonstrate procedures to be adopted including: <ul style="list-style-type: none">• Un-blocking procedures and the potential hazards• Risk assessments• Method statements• Pressurised systems• Explain where the likely areas of blockages would occur• How to locate a blockage and clear safely• Re-connect and Re-prime• Set up exclusion zone around delivery pipe• Safely and efficiently
Prepare concrete pump for cleaning and carry out cleaning tasks safely and efficiently	Explain and demonstrate all safety procedures to be adopted including: <ul style="list-style-type: none">• Cleaning delivery lines using procedures using the pump and a sponge wash ball and the dangers of not fitting a ball catcher• The dangers of cleaning delivery lines using compressed air• Fitting of a washout adaptor• PPE• Importance of the last length of the pipe line being straight• Exclusion zones



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Environmental considerations	Explain and demonstrate procedures to be adopted including: Designated washout areas / wash out box etc • Clear visibility • Communication system – signals etc • Noise • Vibration • Ground contamination • Ground damage • Concrete spills • Fuel spills • Fumes • Flying debris • Correct disposal of waste material • Correct disposal of waste water etc
Storage and transport of concrete pump attachments	Explain and demonstrate the following: Allow power driven implements to slow down • Check condition of hoses – attachments etc • Correct / secure storage of attachments • Refer to manufacturer's handbook
Carry out all end of work and shut down procedures	Explain and demonstrate procedures to be adopted including: Shut down procedures and machine security • Clean machine thoroughly after use to avoid corrosion, facilitate maintenance, prevent personal contamination • Inspect machine for signs of wear and damage

The learning outcomes listed should not be considered in isolation and may be added to, in order to accurately reflect the learner's duties and working environment