



Learning Outcomes for N201 Excavator 180°

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, MHSWR, PUWER Regulations, LOLER Regulations, COSHH, Vibration at Work Regulations, CDM Regulations, HSG85, HSG144, HSG47, risk assessments, method statements, codes of practice 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, fuel tank, guards, transmissions, hydraulic systems, stability, ground pressure, boom, dipper, buckets, chassis, steering, brakes, ROPS, FOPS, 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 • The importance of emergency stopping procedures. Refer to the manufacturer's handbook, codes of practice, decals etc
Conduct all pre-operational checks in accordance with manufacturer's and legislative requirements	Explain the importance of pre-operational 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 etc
Identify and maintain PPE appropriate for excavator 180° use	Explain that PPE should include the following: Suitable safety boots, ear defenders, face / eye protection, dust mask if appropriate, suitable gloves, hard hat, overalls etc
Prepare the excavator 180° for use	Explain and demonstrate all safety procedures to be adopted including: Correct starting procedure • Mount and dismount the machine • Correct operating procedure on slopes / inclines, confined areas • Identify and report any defects • Correct procedure for adjusting / changing different attachments • Follow all safe working procedures, travel position, visibility • Adhere to Road Traffic Act where applicable • Check electrical safety, overhead / underground services • Integrity of the machine, hill starts, traction aids etc



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Conduct all necessary safety checks at the work area	Explain and demonstrate the following fully: Walk the site and highlight or remove any hazards • Confirm that the condition of the site is safe to work in • Importance of ground conditions • Report any hazards that cannot be removed • Set out warning signs and barriers, exclusion zones to warn members of the public and to exclude animals
Operate machinery safely and efficiently	Explain and demonstrate all safety procedures to be adopted including: Correct starting procedure • Mount and dismount the machine • Correct operating procedure on slopes / inclines and confined spaces • Identify and report any defects • Types of ground, spoil placement, machine positioning, levels etc • Soil segregation, productive cycles, diverse types of excavations • Vehicle placement for loading • Use of the multipurpose front buckets, quick hitch systems, lifting equipment, lift planning, lifting accessories, signals, load swings and load stability / security
Environmental considerations	Explain and demonstrate procedures to be adopted including: Clear visibility • Communication system – signals etc • Noise • Dust • Vibration • Ground contamination • Ground damage • Fuel spill • Oil spills • Fumes • Flying debris
Storage and transport of Excavator 180° attachments	Explain and demonstrate the following: Allow power driven implements to slow down • Check condition of hydraulic hoses – attachments etc • Correct / secure storage of attachments • Types of transporter and compatibility to machine • Refer to manufacturer's handbook
Explain loading / unloading procedures for machine transportation	Explain and demonstrate the following: Placement on transporter, security and position • Types of transporter and compatibility to machine • 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 • Parking procedure • 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***