



Learning Outcomes for N240 Grader

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 Regs, LOLER Regs, Road Traffic Act, risk assessment, method statement, 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, transmission, chassis, steering systems, the circle, mould board, centre shift, scarifier, ROPS, FOPS, articulation hitch wheels, hydraulic system, fuel tank, guards, stability, ground pressures and 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 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 procedure etc
Identify and maintain PPE appropriate for grader use	Explain that PPE should include the following: Suitable safety boots, ear defenders, face / eye protection, dust mask if appropriate, suitable gloves, overalls, hard hat etc



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Prepare grader for use and operate machinery safely and efficiently	Explain and demonstrate all safety procedures to be adopted including: Correct starting procedure, hill starts • Correct travelling / grading procedure on slopes / inclines • Steering, braking, ground conditions etc • Follow safe working procedures – direction of traffic, cambers etc • Check electrical safety, overhead cables / underground cables • Check fuel level and visibility
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 • Report any hazards that cannot be removed • Set out warning signs • Height restrictions, confined spaces • Travel routes, ground conditions
Operate machinery safely and efficiently	Explain and demonstrate all safety procedures to be adopted including: Mount and dismount the machine • Correct operating procedure on slopes / inclines • Identify and report any defects • Correct procedure for adjusting spread levels and feathering • Types of ground, machine positioning, soil placing / segregation • Mouldboard angles, controls, side casting, windrow techniques • Grade to required specification, batters, ditches etc • Follow all safe working speed and procedures • Check electrical safety, overhead / underground services • Cleaning work area, productive cycles
Environmental considerations	Explain and demonstrate procedures to be adopted including: Clear visibility • Communication system – signals etc • Noise • Dust • Vibration • Ground contamination • Fuel spills • Fumes
Demonstrate knowledge of loading and unloading procedures for machine transportation	Explain and demonstrate the following: Different types of transport vehicle • Positioning of load on vehicle • Load security • Use of banksman • Environmental conditions
Carry out all end of shift and shut down procedures	Explain and demonstrate procedures to be adopted including: Shut down procedures and machine security • Lower all equipment • 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***