

## Practical Test for N100 Excavator as a Crane

	ACTIVITY GUIDELINES
	The learner must:
Test sequence	<ul> <li>Complete all pre-start and running checks before any activity takes place</li> <li>Only complete the shutdown procedures at the end of the test</li> <li>All additional test requirements can be completed in any order</li> </ul>
Operator safety and observations	<ul> <li>Seat belt must be worn by the learner at all times unless the employer's risk assessment states differently</li> <li>The excavator must be serviceable, meet current legislation and bucket removed</li> <li>If the learner is connecting the accessories and the excavator to the load in preparation for lifting, they must hold relevant and nationally recognised slinger / signaller qualification)</li> <li>The lift must be properly planned, appropriately supervised and carried out in a safe manner</li> <li>The learner must lower the engine revs, engage immobiliser and any other safety device when the slinger / signaller is attaching the accessories, the load for lifting or entering the danger zone</li> </ul>
Note:	<ul> <li>Excavators used for lifting objects are regarded as lifting equipment and requires a thorough examination by a competent person at least every 12 months. Where a quick hitch is permanently mounted to the excavator, it will be covered in the 12 monthly examinations</li> <li>Excavators should not be used for lifting persons under any circumstances</li> <li>If the QH system is moved from one machine to another it is classed as an accessory and should be thoroughly examined every 6 months</li> <li>It is the instructor's responsibility to check all certification is correct and in date prior to starting the test</li> </ul>
Travelling to work area	<ul> <li>The learner must</li> <li>Travel over varying terrain</li> <li>Travel through a restriction in a forward and reverse direction</li> <li>Travel up and down a gradient</li> </ul>
Prepare and set up to lift	<ul> <li>The learner must:</li> <li>Check ground condition / suitability</li> <li>Check excavator for lifting suitability and service ability</li> <li>Check travel route for any overhead or proximity hazards</li> <li>Ensure a safety zone is established</li> </ul>
Liaise with slinger / signaller	<ul> <li>The learner must:</li> <li>Discuss and agree signal codes / hand signals with slinger / signaller</li> <li>Agree direction of load movement</li> <li>Agree landing and placement area</li> </ul>
Carry out lifting and travelling duties	<ul> <li>The learner must:</li> <li>Identify weights and centres of gravity</li> <li>Carries out test lift to ensure load integrity and stability</li> <li>Checks weight and keeps within the SWL of the excavator</li> <li>Lift, move and place a load under the direction of the slinger / signaller</li> <li>Keep the load low when travelling</li> <li>Travel the load over undulating ground</li> <li>Travel through a restriction</li> <li>Perform left and right turns with sprockets driving and leading</li> </ul>
Shutdown procedures	The learner must: Park the excavator in a safe position with all lifting accessories removed, the engine isolator key removed and handed to the instructor



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Note:	<ul> <li>A verbal description to the instructor of the pre-start checks would be acceptable if the machine is hot</li> <li>The operator's manual must be accessible</li> <li>The ground must have a section that is sufficiently uneven to enable the candidate to demonstrate the correct procedures for travelling over undulating ground as per manufacturers recommendations</li> <li>The slope must be of sufficient incline to enable the candidate to demonstrate the correct procedures for traveling up and down a gradient as per manufactures recommendations</li> <li>Restriction to be a minimum of 0.5m but no more than 0.75m at the extremities</li> <li>The excavator must be serviceable, meets the current legislation, have a boom lowering device on the main boom cylinder (ISO 8643:1997) and fitted with an acoustic / visual warning device indicating load movement</li> <li>It should also be fitted with a load hooking device that is either mounted on the dipper arm, quick hitch or bucket</li> <li>If the Instructor intends to use a mini excavator as a crane and the risk assessment shows there is a significant risk of overloading or overturning on a machine with a rated capacity of 1 tonne or less, a rated capacity indicator is required (as stated in LOLER 98 and the CPA guidance on lifting operations in construction using excavators)</li> </ul>
	The lifting chart should be situated in the cab or in the manufacturer's operation and maintenance manual, if no chart or information is available, the excavator should not be used for lifting purposes  The learner must stop immediately if the slinger / signaller strays between the load and the excavator tracks
Specifications:	<ul> <li>The hand signals given to the excavator learner should comply with BS7121</li> <li>The candidate must move at least 3 different types of loads:  1 x bundled load  1 x long load  1 x load that is no more than 60% of the rated capacity of the machine at 75% of its full working radius as per lifting chart</li> <li>Load A must be travelled over undulating terrain to an agreed point, slewed and positioned at 75% of the full radius</li> <li>Load B must be travelled over undulating terrain, slewed and placed below ground level or at an out of sight position</li> <li>Load C must be travelled over undulating terrain and placed at a given point</li> <li>The travel distance of the loads must be minimum of 30m</li> <li>All loads must be slewed to the land position under the guidance of the slinger / signaller</li> <li>All loads must be placed within 100mm of designated landing position</li> <li>Maximum height from underside of the load to ground level should be no more than 100mm</li> </ul>
Test timings:	The full test must be completed within 1hr
Note:	It is recommended that all learners completing basic training receive a minimum 7hr Health, Safety, Environment and Induction Training