

Technical test - Practical

Overhead travelling crane - A64



Resources required

Machine	<ul style="list-style-type: none"> Overhead travelling crane suitable for the relevant endorsement
Area	<ul style="list-style-type: none"> Area of at least 100m² to allow the lifting, travelling and placing of all loads Working area that is segregated from personnel/moving plant
Other equipment / resources	<ul style="list-style-type: none"> Slinger and signaller assistance Appropriate lifting accessories for all loads Radio communication Equipment to facilitate out-of-sight lifts
Loads	<ul style="list-style-type: none"> LOAD 1 1 x load being at least 2 tonnes in weight LOAD 2 1 x load being unbalanced LOAD 3 1 x load of at least 4 metres in length LOAD 4 2 x equal-sized loads able to be stacked one upon the other
Notes	<ul style="list-style-type: none"> The crane selected must be powered in all planes and equipped with a powered hoisting system and have an under hook height of at least 3 metres Cranes selected for endorsement A may be either pendant control or radio control operated. The working area for the lifting and placing of loads must have a beam travel distance of at least 15 metres but not exceeding 30 metres, and a trolley travel distance of at least 7 metres The operator's manual must be with the crane The crane and all lifting accessories must be fit-for-purpose and have a thorough examination certificate (or declaration of conformity) The weight of all loads must be known The width of Load 3 must not exceed 10% of its length Load 4 must have a minimum size of 1m³ The person selected for slinger and signaller duties must be certificated and competent The tester may undertake the role of slinger/signaller

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Activity instructions - Pre-use checks



Sequence	<ul style="list-style-type: none"> Activities 1 to 3 must be undertaken at the start of the test
Preparing for work	<ol style="list-style-type: none"> Complete all manufacturers' pre-start, pre-use running checks and prepare the crane for lifting operations as detailed in the operator's manual which must be referred to by the candidate during the activity <ul style="list-style-type: none"> Additional information to be identified by the candidate referring to the operator's manual. Tester to decide what information will be identified
Notes	<ul style="list-style-type: none"> The candidate must provide a running commentary to pre-start checks being carried out in order to provide supporting information to visual checks (e.g. components) and physical checks (e.g. checking travel limits) being made. The tester may prompt the candidate to outline specific information but not ask direct questions that requires a technical answer. The operator's manual must be referenced during activity 2 and 3 All pre-use checks must conform to BS 7121 2-7 and should include the following: <ol style="list-style-type: none"> All types: <ul style="list-style-type: none"> operation of emergency stop controls operation of all crane motion controls operation of electrical isolator switch operation of motion limit switches operation of any braking system operation of audible warning devices (where fitted) general condition of the crane structure and mechanisms including ropes, sheaves, hook unusual noises or erratic movement during operation debris or other obstructions on the track obstructions in the path of travel of the crane (or that adequate precautions are in place to prevent collisions) Cab controlled cranes and cranes with access to the bridge: <ul style="list-style-type: none"> work areas on the crane are tidy and free from any item which might fall access and egress from the cab availability of appropriate fire-fighting equipment condition of the cab controls Remote operation types <ul style="list-style-type: none"> pendant and associated cables or remote control station as appropriate condition of the casings and seals of pendant and remote controls

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Activity instructions - Operational



<p>Sequence</p>	<ul style="list-style-type: none"> • Activities 7 – 11 can be undertaken in any order • Activities 11, 12 and 13 may be incorporated with activities 7 - 10 • Activity 15 must be undertaken at the end of the test <p>The test must be completed within a given time. The specifications' section gives further information</p>
<p>Preparing for work</p>	<ol style="list-style-type: none"> 2. Ensure working area hazards controlled effectively and trip hazards identified 3. Ensure working area is suitable segregated
<p>Setting up for work</p>	<ol style="list-style-type: none"> 4. Prepare and set the crane for each lift
<p>Working tasks <i>(refer to specifications)</i></p>	<ol style="list-style-type: none"> 5. Lift LOAD 1, travel and place the load which requires the beam to travel the full distance of the working area and requires at least half of the trolley's travel distance. The load must be placed at mid-point of the working area. On completion, the load must be detached 6. Lift LOAD 2 and travel the load over at least half of the total travel of the beam. At a suitable point, negotiate an obstruction. Place the load at a given point. On completion, the load must be detached 7. Lift LOAD 3 and travel in a diagonal direction for at least one third of distance of the working area and place at a given point. On completion, the load must be detached 8. Lift 1 x LOAD 4 and land on top of the remaining LOAD 4. On completion, place the load back to ground level. After being placed, the load must be detached 9. Recover simulated 2 metre load swings 10. Lift a load from a given position, and land in a designated place out-of-sight of the candidate 11. Carry out an emergency stop 12. Ensure all loads are safe following each activity
<p>Shutting down</p>	<ol style="list-style-type: none"> 13. Place the crane in the out-of-service mode and carry out securing procedures
<p>Notes</p>	<ul style="list-style-type: none"> • For endorsement A, if the crane is only equipped with a radio control unit, the candidate must simulate the use of a pendant control unit by being within near proximity to the hook/trolley, but sufficiently clear of the load, for both attaching, detaching and travelling purposes • If the crane is equipped with both a pendant and radio remote, then only the pendant will be used on the test • Prior to the first load to be lifted, the beam must be situated at one end of the working area, with the trolley situated at either end of the beam

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Activity instructions – Operational (*Continued*)

<p>Notes (Continued)</p>	<ul style="list-style-type: none"> • On activities 8 and 9, the load must follow the ground contours and be able to be handled • For activities 7, 8 and 9 – where the crane has a working area of less than 150m², the beam with a load must be travelled the full length of travel before landing the load according to each activity • On activity 8, the obstruction should be not less than 2 metres high • On activity 9, both beam and trolley travel functions must be used simultaneously • On activity 11, the tester shall induce the load swing in a forward and backward movement and side to side movement • Activity 12 must be undertaken twice – once using hand signals and once using radio communication. All other lifts may be undertaken using either radio or hand signals • All loads should be equipped with suitable hand lines • The slinger/signaller shall be used for all load handling requirements and for the purposes of the test, all hand signals shall conform with BS7121 : part 1
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Activity measurements

Load placing	<ul style="list-style-type: none"> • To be landed within 100 mm of a designated place
Load swing	<ul style="list-style-type: none"> • To be corrected within 3 moves
Load height (activities 8 & 9)	<ul style="list-style-type: none"> • Maximum of 100mm from underside of the load
Test timings	<ul style="list-style-type: none"> • The test must be completed within 1 hour and 10 minutes

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Basic details

Test ref:	Candidate name:
Tester ref:	Candidate ref:
Tester ref:	Date of test:
Endorsement: A <input type="checkbox"/> B <input type="checkbox"/>	Start time of test:
Make and model:	Duration:

Mandatory - Pre-use checks

Correctly carried out during the test?

Y/N

Preparing	1 All pre-start and running checks identified from operator's manual	
	2 Full pre-start checks carried out	
	3 Full pre-use running checks carried out including all crane operations and limit switches checked	

Mandatory - Operational

Correctly carried out during the test?

Y/N

Preparing	4 Suitable control measures for hazards in working area identified	
	5 Area checked and safe prior to setting up for lifting and depositing loads	
Setting up	6 Hook positioning prior to loads being attached	
	7 Crane programmed for all lifting duties (where relevant)	
	8 Communication arrangements confirmed with the signaller	
Working	9 SWL not exceeded at all times	
	10 Load integrity and stability maintained at all times	
	11 Loads did not contact any obstructions	
	12 Lifted, moved and lowered all loads in a controlled manner	
	13 All crane movements intentional	
	14 No shock loading during operations	
	15 Combined control use demonstrated during diagonal movement	
Shutdown	16 Instructions conformed with	
	17 Loads left in a safe situation	
Other	18 All shutting down and securing procedures	
	19 Crane/hook parked in suitable location and in a safe situation	
	20 Legislation, manufacturers' and health and safety requirements complied with	
	21 Test completed within the given time	

All of these items must be awarded

Achieved / Not achieved

Faults - Pre-use checks

Candidate incorrectly carried out the following:

Fault

Mark

Penalty

Preparing	1 Insufficient narrative of visual checks		1	
	2 Identify information from the Operator's Manual		2	
	3 Content of narrative on visual checks with some error		2	
	4 Narrative of visual checks of sufficient content but some technical errors		2	

Faults - Operational

Candidate incorrectly carried out the following:

Fault

Mark

Penalty

Travelling	5 Accessing and egressing cab/platform (where relevant)		2	
	6 Full observation prior to moving loads		2	
	7 Full observation maintained during travel		2	
	8 Walking route continually checked for hazards (endorsement B)		1	
	9 Lifting accessories kept clear of the ground		1	
Working	10 Load swings kept within 0.5 of a metre / rectify swinging		2	
	11 All loads placed at the given points within the given tolerance		2	
	12 Each load lifted clear of surface and checked for integrity		2	
	13 All loads lifted vertically (maximum sway – 250 mm)		2	
	14 All loads landed vertically (maximum sway – 250 mm)		2	
	15 Sequence of using controls		2	
	16 Smooth use of controls		1	

Not exceeded eight penalties

Total penalties

Achieved / Not achieved