

Telescopic Handler 360 slew -

A77

Outcomes



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Through a combination of targeted training and experience, an individual with the 360 degree slewing telescopic handler will be able to:

Roles and responsibilities	<ul style="list-style-type: none">Describe the nature of the sector of industry and their role and responsibilities as a plant operator
Preparing for work	<ul style="list-style-type: none">Name and explain the purpose of principal components, the basic construction, controls and terminologyConform with manufacturer's requirements as per the operator's handbook, other types of information source and relevant regulations and legislationUndertake and record all pre-use checksExplain the need and function of appropriate documentation
Travelling and manoeuvring	<ul style="list-style-type: none">Configure and ready for travel (site and highway)Travel over level surfaces with and without loads and, on rough, undulating ground and inclinesManoeuvre in a limited space area with and without loadsArrange and follow given signals and instructions when travelling and manoeuvring with and without loads
Setting up for work	<ul style="list-style-type: none">Configure and set for all lifting, loading and transferring duties in accordance with a given Risk Assessment and Method Statement (RAMS)Attach and remove various attachmentsAttach and remove hoist-rope attachments for the movement of suspended loadsExplain actions required for proximity hazards Inc. underground and overhead servicesExplain the basic principles of the slinging of loads, types of lifting accessories that can be used and the correct and incorrect methods for attaching suspended loads to the machineExplain the requirements for ensuring adequate ground support and stabilityExplain the causes of instability during blocked, free-on-wheel and pick-and carry duties

Outcomes (Continued)

Working tasks	<ul style="list-style-type: none"> • Lift and place various suspended and fork-mounted loads from a variety of locations including a vehicle • Lift and place suspended and fork-mounted loads under blocked, free-on-wheels and pick-and-carry duties • Lift, transfer and place fixed-hook suspended loads up to maximum extension, at full working height and using the full slewing capability of the machine • Lift, transfer and place hoist-rope suspended loads up to maximum extension, at full of working height and using the full slewing capability of the machine (Blocked duties) • Lift, transfer and place fork-mounted loads up to maximum extension, at full working height and using the full slewing capability of the machine (Free-on-wheels) • Minimise the swinging of suspended loads during travel • Explain how stability is affected by travelling with a raised/extended boom and/or rotated upper structure with suspended loads and fork-mounted loads (both regular and irregular) • Explain visibility issues and restrictions with suspended and fork-mounted loads • Place suspended loads out of sight of the operator • Maintain safe working situations
Completing work	<ul style="list-style-type: none"> • Maintain safe and tidy working areas
Shutting down	<ul style="list-style-type: none"> • Carry out shut down and securing procedures • Explain the loading and unloading procedures for machine transporting

Note: Due to a level of incidents involving telescopic handlers, particularly with the movement of suspended loads, the Strategic Forum for Construction Plant Safety Group have produced a document titled 'Good Practice Guide to the Safe Use of Telehandlers in Construction' and a supplementary 'Good Practice Guide for the Lifting and Travelling with Suspended Loads using Telehandlers'.

It is essential that those both planning and conducting training and assessment activities are conversant with the content of each document and that training activities reflect all good practices contained therein.

Both documents are free to download from www.cpa.uk.net/sfpsg/

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Syllabus

Learning outcome	Training content	
<ul style="list-style-type: none"> Describe the nature of the sector of industry and their role and responsibilities as a plant operator 	<ul style="list-style-type: none"> Industry type Customer / client needs Sector contribution Role Reporting structures Lifelong skills Working practices 	<ul style="list-style-type: none"> Communication with colleagues / management / other trades Health and Safety at Work Act Environmental issues Other trades Social responsibilities
<ul style="list-style-type: none"> Name and explain the purpose of principal components, the basic construction, controls and terminology 	<ul style="list-style-type: none"> Differing types Functions and applications Power units Hydraulic systems ROPS / FOPS Chassis / steering / tyres Inc. pressures / ply rating and importance of replacement with same 	<ul style="list-style-type: none"> Stability Booms Forks Safety / stability systems Counterbalancing Attachments and accessories Hoist ropes / hook blocks Access systems Safe load indicator equipment Remote control units
<ul style="list-style-type: none"> Conform with manufacturer's requirements as per the operator's handbook, other types of information sources and relevant regulations and legislation 	<ul style="list-style-type: none"> Operator's Manual Machine decals Health and Safety at Work Act PUWER/LOLER PPE Rating plates Codes of Practice Site plans / drawings Duty charts/Load charts Familiarisation 	<ul style="list-style-type: none"> Method statements Lift plans Lifting requirements and limitations Risk assessments / COSHH Inspection and reporting requirements, daily weekly thorough examination, both for equipment and accessories
<ul style="list-style-type: none"> Undertake and record all pre-use checks 	<ul style="list-style-type: none"> Regular and non-scheduled maintenance procedures Checklists 	<ul style="list-style-type: none"> Sequence of pre-use checks Defect reporting Company policy
<ul style="list-style-type: none"> Explain the need and function of appropriate documentation 	<ul style="list-style-type: none"> Certification (CE for machine & attachments) Thorough examination (machine and accessories) 	<ul style="list-style-type: none"> Relevant site-related documentation Pre- use checks/inspections Operator's handbook
<ul style="list-style-type: none"> Configure and ready for travel (site and highway) 	<ul style="list-style-type: none"> Driving controls Attachments Driving position Type and security of attachments 	<ul style="list-style-type: none"> Visibility Road Traffic Act (attachments etc.) Site (towing)

Syllabus (continued)

Learning outcome	Training content	
<ul style="list-style-type: none"> Travel over level surfaces and on rough, undulating ground and inclines, with and without loads 	<ul style="list-style-type: none"> Driving controls Ground conditions Traction / aids Inclines and techniques Hazards Travel speeds Load swing and impact on equipment 	<ul style="list-style-type: none"> Working area / routes Site and road travel Environment protection / minimise damage Load protection Stability/centres of gravity Locking axles
<ul style="list-style-type: none"> Manoeuvre in areas with limited space, with and without loads 	<ul style="list-style-type: none"> Visibility Limitations of vision Steering options Proximity hazards 	<ul style="list-style-type: none"> Protection of ground / tight turns Environmental / noise / fumes Travel speeds
<ul style="list-style-type: none"> Arrange and follow given signals and instructions when travelling and manoeuvring with and without loads 	<ul style="list-style-type: none"> Code of signals (hand) Signaller location Visibility Signalling methods Types of hand signals Hand signal compatibility Verbal instructions Codes of practice 	<ul style="list-style-type: none"> Communication types and limitations Radio set-up Radio protocols Visibility Multiple signalling
<ul style="list-style-type: none"> Configure and set for all lifting, loading and transferring duties 	<ul style="list-style-type: none"> Best method for safe load movement Lift plan RAMS Positioning / planning Required configuration Lifting controls Machine capacity De-rating Load Moment Indicators Load charts Attachments 	<ul style="list-style-type: none"> Load centres / C of G Environmental conditions Levelling Site markings Fork spacing Hazards Load weights Deploy stabilisers Rated capacity indicators Levelling devices (axles) Ground conditions
<ul style="list-style-type: none"> Attach and remove various attachments 	<ul style="list-style-type: none"> Attachment types and function Preparation procedures Attaching and removal procedures Storage requirements Machine configuration and positioning 	<ul style="list-style-type: none"> Manual handling Using assistance Securing requirements and essential pre-use checks Post-fitting checks Load charts

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Syllabus (continued)



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Learning outcome	Training content	
<ul style="list-style-type: none"> • Attach and remove hoist-rope attachments for the movement of suspended loads 	<ul style="list-style-type: none"> • Attachment types and function • Preparation procedures • Attaching and removal procedures • Storage requirements • Machine configuration and positioning 	<ul style="list-style-type: none"> • Manual handling • Using assistance • Securing requirements and essential pre-use checks • Post-fitting checks • Load charts
<ul style="list-style-type: none"> • Explain actions required for proximity hazards Inc. underground and overhead services 	<ul style="list-style-type: none"> • Types of typical services • Warning / identification systems 	<ul style="list-style-type: none"> • Reporting procedures for damage to services • Minimum distances and clearance
<ul style="list-style-type: none"> • Explain the basic principles of the slinging of loads, types of lifting accessories that can be used and the correct and incorrect methods for attaching suspended loads to the machine 	<ul style="list-style-type: none"> • Signalling procedures • Techniques • Types of loads • Machine stability • Effects of incorrect methods of attachments • Function • Application • De-rating 	<ul style="list-style-type: none"> • Load stability / security • Environmental conditions • Load characteristics (loose/bundled/fluid etc.) • Accessory compatibility • Slinging angles • Load weight • SWL/WLL • Limitation of slinging duties
<ul style="list-style-type: none"> • Explain the requirements for ensuring adequate ground support and stability 	<ul style="list-style-type: none"> • Tyre pressures • Ground conditions/assessments • Lift plans • Point loadings • Machine bearing pressures/point loadings • Ground bearing capacity • Factors of safety • Environmental effects Inc. severe weather • Sole plate material/ composition 	<ul style="list-style-type: none"> • Spreading of load/sole plates • Ground improvement • stabiliser extension/short rigging • Application of full or some stabiliser use • Underground services • Ground structure and composition • Terrain/topography • Previous use of ground • Temporary works
<ul style="list-style-type: none"> • Explain the causes of instability during blocked, free-on-wheel and pick-and carry duties 	<ul style="list-style-type: none"> • Effects of swinging loads • Dynamic forces • De-rating of slung loads • Load size • Ground conditions 	<ul style="list-style-type: none"> • Factor of safety • Travel configuration • Proximity hazards • Regulations/guidance • Environmental conditions

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Syllabus (continued)



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Learning outcome	Training content	
<ul style="list-style-type: none"> Lift and place various suspended and fork-mounted loads from a variety of locations including a vehicle 	<ul style="list-style-type: none"> Best method for safe load movement Lift plans Required authority Guidance and regulations Load charts Environmental conditions Machine suitability Preparation Loading towers / platforms / racking / stacking Undercutting 	<ul style="list-style-type: none"> Load types Attachments/accessories Inc. limitations and design use Working area Identification of proximity hazards RCI/LMI settings Types of trailer / transporter Transporter capacities Procedures / weight distribution Materials / vehicle protection
<ul style="list-style-type: none"> Lift and place suspended and fork-mounted loads under blocked, free-on-wheels and pick-and-carry duties 	<ul style="list-style-type: none"> Load charts Stability Trial lifts Ground conditions Lifting controls RCI/LMI information Jib extensions 	<ul style="list-style-type: none"> Visibility Environmental conditions Load stability/security De-rating requirements Following instructions Travel routes
<ul style="list-style-type: none"> Lift, transfer and place fixed-hook suspended loads up to maximum extension, at full of working height and using the full slewing capability of the machine 	<ul style="list-style-type: none"> Configuration Ground conditions / hazards Visibility Load security / travel position Signalling / following instructions 	<ul style="list-style-type: none"> Stability Loading towers / platforms / racking / stacking Protection of structures / loads Overhead obstructions Lift plans
<ul style="list-style-type: none"> Lift, transfer and place hoist-rope suspended loads up to maximum extension, at full working height and using the full slewing capability of the machine (Blocked duties) 	<ul style="list-style-type: none"> Configuration Ground conditions / hazards Visibility Load security / travel position Signalling / following instructions Stabilisers 	<ul style="list-style-type: none"> Stability Loading towers / platforms / racking / stacking Protection of structures / loads Overhead obstructions Lift plans
<ul style="list-style-type: none"> Lift, transfer and place fork-mounted loads up to maximum extension, at full working height and using the full slewing capability of the machine (Free-on-wheels) 	<ul style="list-style-type: none"> Configuration Ground conditions / hazards Visibility Load security / travel position Signalling / following instructions Lift plans 	<ul style="list-style-type: none"> Stability Loading towers / platforms / racking / stacking Protection of structures / loads Overhead obstructions

Syllabus (continued)

Learning outcome	Training content	
<ul style="list-style-type: none"> Minimise the swinging of suspended loads during travel 	<ul style="list-style-type: none"> Travel routes Accessory types Poor/uneven ground Slopes/inclines Effects of swinging loads Hand & tag lines 	<ul style="list-style-type: none"> Travel speeds Stability Observation/anticipation Load characteristics
<ul style="list-style-type: none"> Explain how stability is affected by travelling with a raised / extended boom and/or rotated upper structure with suspended loads and fork-mounted loads (both regular and irregular) 	<ul style="list-style-type: none"> Centres of gravity Swinging of loads Environmental factors/extreme weather Dynamic forces 	<ul style="list-style-type: none"> Ground conditions Slopes/inclines Travel speeds Travel routes
<ul style="list-style-type: none"> Explain visibility issues and restrictions with suspended and fork-mounted loads 	<ul style="list-style-type: none"> Load size Load swing Carrying height of load Maintaining vision with slinger/signallers 	<ul style="list-style-type: none"> Direction of travel Assistance for travelling Typical proximity hazards Ground conditions
<ul style="list-style-type: none"> Place suspended loads out of sight of the operator 	<ul style="list-style-type: none"> Communication/signalling Signaller positioning 	<ul style="list-style-type: none"> Stability Proximity hazards
<ul style="list-style-type: none"> Maintain safe working situations 	<ul style="list-style-type: none"> Stability Load security 	<ul style="list-style-type: none"> Hazards
<ul style="list-style-type: none"> Maintain safe and tidy working areas 	<ul style="list-style-type: none"> Specification Stacking 	<ul style="list-style-type: none"> Load positioning / storage Proximity hazards
<ul style="list-style-type: none"> Carry out shut down and securing procedures 	<ul style="list-style-type: none"> Shut down procedures Security Configuration 	<ul style="list-style-type: none"> Parking and positioning Isolation of remote units Reporting of defects
<ul style="list-style-type: none"> Explain the loading and unloading procedures for machine transporting 	<ul style="list-style-type: none"> Compatibility Positioning Ground conditions Access / egress / working at height 	<ul style="list-style-type: none"> Types of transporter Security Configuration Loading responsibility

Note: The listed training content should not be considered exhaustive and subjects may be added to reflect the individuals' working environment.

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Safety critical



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Emphasis to be placed on the following topics:

Topic	Emphasis
<ul style="list-style-type: none">• Quick-hitch systems	<ul style="list-style-type: none">• Manufacturer's procedures must be strictly adhered to. Security of attachments to be fully checked prior to use
<ul style="list-style-type: none">• Stability with a raised / extended boom and/ or rotated turret on uneven ground	<ul style="list-style-type: none">• Checking ground suitability prior to raising loads. Travelling and manoeuvring with raised loads. Appreciation of centres of gravity
<ul style="list-style-type: none">• Manoeuvring and reversing	<ul style="list-style-type: none">• Reversing procedures and tele-handlers danger areas of limited or no vision Inc. blind spots and vision aids
<ul style="list-style-type: none">• Lift plans / Method statements	<ul style="list-style-type: none">• Lift plan types and requirements and the need for lift planning, particularly where suspended loads are involved. Adherence to the lift plan as constructed by a competent person
<ul style="list-style-type: none">• Suspended loads during travel	<ul style="list-style-type: none">• The effects and consequences of load swing when travelling with a suspended load, particularly on inclines and windy weather Inc. knowledge of wind speed limits
<ul style="list-style-type: none">• Suspended loads using a hoist rope-suspended hook block	<ul style="list-style-type: none">• The effects and consequences of load swing when using a hoist rope, particularly windy weather Inc. knowledge of wind speed limits and large area loads
<ul style="list-style-type: none">• Suspended loads and proximity hazards	<ul style="list-style-type: none">• Issues relating to travelling with raised boom and operator's limitation of vision when travelling with raised boom and suspended large area loads
<ul style="list-style-type: none">• Proximity of the slinger/signaller	<ul style="list-style-type: none">• Ensuring that the slinger/signaller is clear of the machine's path during travel at all times, maintaining full vision of the s/s and stopping immediately if sight of them is lost
<ul style="list-style-type: none">• Ground conditions	<ul style="list-style-type: none">• Loads placed through the stabilisers and individual outrigger loading during slewing motions, effects of point loading of the ground, methods of ensuring sufficient ground conditions and the nature of the ground, Ground composition and the methods of load-spreading and use of mats etc.
<ul style="list-style-type: none">• Deployment of stabilisers	<ul style="list-style-type: none">• The use of stabilisers, footprint area of the stabilisers, the effects of partial and full extensions and leveling of the chassis laterally and longitudinally
<ul style="list-style-type: none">• Platforms	<ul style="list-style-type: none">• Regulatory use of platforms and conditions of using platforms for accessing purposes
<ul style="list-style-type: none">• Tidiness of the work area/good housekeeping	<ul style="list-style-type: none">• Ensuring that area of operation is organised and of suitable ground so that slips, trips & falls are minimised, and that materials are suitably and safely stored
<ul style="list-style-type: none">• Remote control use	<ul style="list-style-type: none">• Conditions, parameters and use of remote control functions
<ul style="list-style-type: none">• Remote control operation	<ul style="list-style-type: none">• Isolating of all operating controls when using a remote unit, when carrying out other functions or during rest periods• The dangers of using unguarded/damaged remote units and preventing inadvertent movement of controls

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Duration / Ratios



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To allow effective learning, these training times are recommended for this category. Candidates must be profiled to establish learning needs. Durations should be of a length to ensure the learning outcomes are met.

Experience	Accumulated hours
• Novice operators with no industry or machine experience	70
• Novice operators with industry experience but no machine experience	63
• Operators with non-forklift experience but similar machine experience	35
• Operators with forklift/telehandler experience	28
• Operators with hoist-rope crane experience	21

All candidates must have received the equivalent to 7 hours of site safety and induction training

To allow effective learning, the listed candidate / machine / instructor ratio is the maximum recommended for this category

2 candidates : 1 machine: 1 instructor

Resources

Practical equipment	Theory equipment
<ul style="list-style-type: none">• Suitable telescopic handler that meets current legislation• Operator's manual for the machine(s)• Various sized loads, with and without a pallet base• Loading out towers that conform to current legislation• Sufficient area of ground for driving• Slopes and rough terrain• Vehicle / trailer with bed able to accommodate adjacent loads• Suitable lifting attachments for operation with suspended loads Inc. fixed hook and hoist rope equipment.• Remote control unit	<ul style="list-style-type: none">• PUWER 1998 Regulations• LOLER 1998 Regulations• HSE GS6• ACOP L117• Operator's Manual• Specifications for types of telescopic handlers• Copies of various types of load rating charts• Strategic Forum Construction Plant Safety Group (www.cpa.uk.net)<ul style="list-style-type: none">– Safe use of Telehandlers– Reducing Unintended Movement of Plant– Ground Conditions for Construction Plant
PLUS <ul style="list-style-type: none">• Suitable PPE• Risk assessment for all areas where training is occurring	PLUS <ul style="list-style-type: none">• Suitable room for theory training purposes• Welfare and rest facilities during training

Category description and types

CPCS defines a category as an item of plant or equipment used within the construction or allied industries and worked in accordance with the manufacturer's basic design. Although this category can have varying uses within industry and used with many attachments, for CPCS training and assessment standards, the descriptions reflect basic core use.

To identify a machine within this category, a typical 360 degree slew telescopic handler would normally have the listed features and be used within the described characteristics.

Category features

- Multi axled wheeled chassis containing a side-mounted operating position; power, hydraulic and electrical units, counterweight components, and front and rear stabilisers
- Upper structure containing the cab and boom components, able to be slewed through 360 degrees
- Extending multi-sectioned boom with a tilting carriage allowing attachments to be fitted, all hydraulically operated

Category characteristics

- Able to travel in forward and reverse and change direction during travel with most types having all-wheel steering and drive
- Most types can travel on uneven and loose ground and slopes
- Can carry out lifting, transfer and placing duties with loads mounted on forks, from ground level to maximum operating height and reach by raising and extending the boom
- Can carry out lifting, transfer and placing duties with loads suspended from the carriage and jib extension via a fixed hook, and connected to the machine using a lifting accessory
- Can carry out lifting, transfer and placing duties with loads connected to a hook block and suspended from the carriage and jib extension via a power-driven hoisting rope