

Demolition Plant – D90

Learning for CPCS

Outcomes



Through a combination of targeted training and experience, an individual with the demolition-adapted 360 rig 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 terminology• Conform with manufacturer's requirements as per the operator's manual, other types of information source and relevant regulations and legislation• Undertake all pre-use checks
Travelling and manoeuvring	<ul style="list-style-type: none">• Configure and set for travel• Travel over rough, undulating ground, substantial inclines and level surfaces• Manoeuvre in confined spaces
Setting up for work	<ul style="list-style-type: none">• Configure and set for extracting and demolishing duties• Explain actions required for hazards, underground and overhead services
Working tasks	<ul style="list-style-type: none">• Extract, segregate and stockpile demolition waste• Place materials into transporting vehicles and hoppers• Demolish parts of a structure or structures (excluding material processing endorsement)• Change attachments and boom components (relevant endorsements)• Comply with method statements and other instructions• State environmental considerations of the demolishing process• Lift, move and place a variety of suspended loads (Endorsement F)• Travel with suspended loads (Endorsement F)
Shutting down	<ul style="list-style-type: none">• Carry out shut down and securing procedures• Explain the loading and unloading procedures for machine transporting

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 Social responsibilities 	<ul style="list-style-type: none"> Communication with colleagues / management / other trades Health and Safety at Work etc. Act Environmental issues Other trades
<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 Function / applications Power units Hydraulic systems Undercarriage Stability/ground pressure 	<ul style="list-style-type: none"> Wheels / tracks Booms / dipper / multi-piece arrangements Slewing arrangements Attachments / couplings Safety systems ROPS / FOPS
<ul style="list-style-type: none"> Conform with manufacturer's requirements as per the operator's manual, other types of information source and relevant regulations and legislation 	<ul style="list-style-type: none"> Operator's manual Machine decals Health and Safety at Work etc. Act PPE Codes of Practice Site plans / drawings 	<ul style="list-style-type: none"> Method statements Lifting requirements and limitations Risk assessments / COSHH Inspection and reporting forms / procedures
<ul style="list-style-type: none"> Explain procedures when dealing with asbestos 	<ul style="list-style-type: none"> Asbestos types Typical locations Identification, surveying and labelling Regulation requirements and licensing Monitoring and control measures 	<ul style="list-style-type: none"> PPE/RPE Health effects and surveillance Removal and disposal procedures Restricted areas
<ul style="list-style-type: none"> Undertake all pre-use checks 	<ul style="list-style-type: none"> Regular and non-scheduled maintenance procedures 	<ul style="list-style-type: none"> Sequence of pre-use checks Defect reporting
<ul style="list-style-type: none"> Configure and set for site travel 	<ul style="list-style-type: none"> Travel controls Attachments / accessories Travel position 	<ul style="list-style-type: none"> Site travel Visibility Road Traffic Act

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Syllabus (continued)



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Learning outcome	Training content	
<ul style="list-style-type: none"> Travel over rough, undulating ground, substantial inclines and level surfaces 	<ul style="list-style-type: none"> Travel routes Slopes / inclines Direction of travel Traction/aids Ground conditions 	<ul style="list-style-type: none"> Hazards Working area Environment protection / minimise damage
<ul style="list-style-type: none"> Manoeuvre in confined spaces 	<ul style="list-style-type: none"> Visibility Limitations of vision Protection of ground / tight turns 	<ul style="list-style-type: none"> Environmental / noise / fumes Height restrictions
<ul style="list-style-type: none"> Configure and set for extracting and demolishing duties 	<ul style="list-style-type: none"> Type of materials/structures Required specification Equipment type Machine positioning Material placing 	<ul style="list-style-type: none"> Site markings Working zones and restrictions Loading vehicles' positioning Material segregation
<ul style="list-style-type: none"> Explain actions required for hazards, underground and overhead services 	<ul style="list-style-type: none"> Warning / identification systems Reporting procedures for damage to services 	<ul style="list-style-type: none"> Types of typical services Minimum distances and clearances
<ul style="list-style-type: none"> Extract, segregate and stockpile demolition waste 	<ul style="list-style-type: none"> Types of materials Material characteristics Segregation procedures Machine positioning Hazardous wastes 	<ul style="list-style-type: none"> Environmental factors Productive cycles of operation Working area
<ul style="list-style-type: none"> Place materials into transporting vehicles and hoppers 	<ul style="list-style-type: none"> Machine positioning Vehicle positioning Signals / communication Loading vehicle stability 	<ul style="list-style-type: none"> Minimum overspill Cleaning loading area Proximity hazards
<ul style="list-style-type: none"> Demolish parts of a structure or structures (excluding material processing endorsement) 	<ul style="list-style-type: none"> Types of buildings / structures Material composition / types Machine positioning Visibility Configuration / attachments Exclusion and drop zones 	<ul style="list-style-type: none"> Dust suppression Material containment Demolishing procedures Ground / slab bearing pressure Attachment operating angles Attachment / hose protection

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Syllabus (continued)



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Learning outcome	Training content	
<ul style="list-style-type: none"> • Change attachments and boom components (relevant endorsements) 	<ul style="list-style-type: none"> • Preparation • Types of attachments • Security • Lifting regulations • Quick-hitch systems • Cradles • Additional hydraulic systems 	<ul style="list-style-type: none"> • Codes of practice / Industry best practice • Manufacturers' procedures • Manual handling • Positioning • Working at height • Environmental issues
<ul style="list-style-type: none"> • Comply with method statements and other instructions 	<ul style="list-style-type: none"> • Legislation and regulations • Risk assessments • Signalling systems 	<ul style="list-style-type: none"> • Format of method statements • Other types of communication
<ul style="list-style-type: none"> • State environmental considerations of the demolishing process 	<ul style="list-style-type: none"> • Factors • Weather/winds/rain • Disposal procedures • Fluids/oils • Noise • Dust/gases 	<ul style="list-style-type: none"> • Spillage containment procedures • Vibrations • Hazardous / non-hazardous materials
<ul style="list-style-type: none"> • Lift, move and place a variety of suspended loads 	<ul style="list-style-type: none"> • Legislation and regulations • Lift planning • Machine configuration • Stability / ground conditions • Lifting accessories and slinging requirements • Hazards 	<ul style="list-style-type: none"> • Trial lifts • Load stability / security • Signalling procedures • Visibility • Environmental conditions • Load swings • Working danger zones
<ul style="list-style-type: none"> • Travel with suspended loads 	<ul style="list-style-type: none"> • Duties charts approval • Configuration • Stability • Route / ground condition • Load integrity / security 	<ul style="list-style-type: none"> • Load swing • Visibility • Hazards • Legislation and regulations
<ul style="list-style-type: none"> • Carry out shut down and securing procedures 	<ul style="list-style-type: none"> • Shut down procedures • Security 	<ul style="list-style-type: none"> • Parking and positioning
<ul style="list-style-type: none"> • Explain the loading and unloading procedures for machine transporting 	<ul style="list-style-type: none"> • Compatibility • Positioning • Configuration 	<ul style="list-style-type: none"> • Security • Types of transporter

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">• Attachments	<ul style="list-style-type: none">• Manufacturer's procedures must be strictly adhered to. Security of attachment to be fully checked (physically) prior to use
<ul style="list-style-type: none">• Manoeuvring	<ul style="list-style-type: none">• Facing the direction of travel and no reversing unless authorised by a nominated vehicle marshaller
<ul style="list-style-type: none">• Ground support	<ul style="list-style-type: none">• Confirmation by operator that ground conditions will support the machine's configuration and point loadings when tracks are front weighted
<ul style="list-style-type: none">• Working envelopes (high reach work)	<ul style="list-style-type: none">• Restrictions of slewing movement when working at height
<ul style="list-style-type: none">• Machine isolation	<ul style="list-style-type: none">• Ensuring all personnel are out of the machine's working radius whilst hydraulically active (unless hydraulic-operated restrictors are fitted and active)• Controls must be isolated when loads and being attached

Note: It is recommended that all candidates attend a suitable Asbestos awareness course that meets current control of asbestos regulations.

Duration / Ratios

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
<ul style="list-style-type: none">• Novice operators with no industry or machine experience	70
<ul style="list-style-type: none">• Novice operators with industry experience but no machine experience	62
<ul style="list-style-type: none">• Operators with unrelated (demolition) machine experience	42
<ul style="list-style-type: none">• Operators with similar (demolition) machine experience	28
<ul style="list-style-type: none">• Endorsement F Lifting operations additional learning duration	7

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



Practical equipment

- Demolition-adapted 360 rig that meets current legislation
- Operator's manual for the machine(s)
- Replacement attachments for changing purposes
- Structures for demolishing

- Materials for segregation
- Slopes, rough terrain areas
- Rear tipping vehicle or trailer for loading into
- Loads and lifting accessories (for Endorsement F)

PLUS

- Suitable PPE
- Risk assessment for all areas where training is occurring

Theory equipment

- PUWER 1998 Regulations
- HSE GS6
- Operator's manual

- Specifications for types of demolition-adapted 360 excavators

PLUS

- Suitable room for theory training purposes
- Welfare and rest facilities during training

- The Strategic Forum Plant Safety Group have produced guidance relating to subjects such as quick hitches, medical fitness, competence and ground conditions and can be downloaded free of charge at www.cpa.uk.net/sfpsg

Category

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. This category is predominately used in the demolition industry and used with many attachments, and for CPCS training and assessment standards, the descriptions reflect basic core use. Endorsements are sub-categories that reflect the variations for this category by chassis type. This category has five endorsements.

To identify a machine within this category, a typical demolition-adapted 360 rig would normally have the listed features and be used within the described characteristics.

Category features

- Tracked chassis
- 360 degree rotating upper structure containing the operating position; power, hydraulic and electrical units and excavating components
- Boom (one or two-piece) with attached dipper arm and bucket, all hydraulically operated
- High reach variants possess a boom (one or multi-piece) and intermediate link, attached dipper arm and attachment, all hydraulically operated

Category characteristics

- Able to travel in forward and reverse and change direction during travel
- Can travel and operate on uneven and loose ground and slopes
- Carry out extraction, sorting and demolition duties in a linear motion using an attachment within the confines of the operating radius, depth and height
- Can place materials using a combination of slew and linear motions within the confines of the operating radius, depth and height
- Can lift and place materials using a combination of slew and linear motions within the confines of the operating radius, depth and height

Endorsements

Endorsement characteristics

- **Endorsement A:** Material processing – equipped with mechanical or hydraulic attachment (grab / claw) to select and stockpile like materials
- **Endorsement B:** Up to 10 tonnes – adapted to undertake demolishing duties using relevant attachments
- **Endorsement C:** Demolishing up to 15 metres – height that the demolishing attachment can reach and relates to the attachment to dipper pin height
- **Endorsement D:** Demolishing up to 30 metres – known as high reach, height that the demolishing attachment can reach and relates to the attachment to dipper pin height
- **Endorsement E:** Demolishing all heights – above 30 metre machines are known usually as ultra-high reach
- **Endorsement F:** Lifting operations – Able to lift, move, travel and place a variety of suspended loads

Further clarification about Demolition Plant categories and endorsements may be found at www.demolition-nfdc.com or by contacting info@demolition-nfdc.com