



National Demolition Training Group
TRAINING THE DEMOLITION INDUSTRY

DEMOLITION DO'S AND DON'TS

Identifying potential hazards and adopting good practices in the demolition process



INTRODUCTION

This booklet has been produced as a guide in identifying potential hazards and adopting good practices by all involved in the demolition process. The people who most benefit from this guide will include; site supervisors, operatives and especially new starters.

We are all aware of the need to plan demolition works and to identify significant hazards that are specific to each project. The development of Method Statements and the preparation of site specific Risk Assessments (eg RAMS).

Risk Assessments and Method Statements (RAMS) will ensure that physical, environmental and structural hazards are identified and that systems are in place to manage those hazards.

Demolition Operative training through the NDTG is continually improving, both in standards and in numbers trained. Induction Training and Tool Box Talks are useful aids to informing Operatives of the inherent hazards and reminding them of the need to be vigilant at all times.

The Construction (Design & Management) Regulations 2007 state that “The arrangements for carrying out demolition or dismantling shall be recorded in writing before the demolition or dismantling work begins” so a method statement **MUST** be in place for **ALL** demolition projects big or small.

However accidents continue to happen. ‘Why’? Because in general, accidents are unexpected and unplanned occurrences. They often happen when people are untrained or take shortcuts.

Take care and **DO NOT** take unnecessary risks. We all have a responsibility to work in a healthy and safe manner to ensure our safety and wellbeing and to ensure that our workmates, particularly those with less experience, can identify the hazards and work safely.

Consider the consequences of your next action.

This booklet should remind us all of the things that sometimes get overlooked due to pressure of work, lack of experience and historic bad practice; i.e. “We have always done it this way in the past.” Remember **SAFETY IS NO ACCIDENT.**

IF YOU ARE UNSURE OF ANY DEMOLITION WORK PROCEDURES, ASK. IF YOU ARE STILL IN DOUBT, ASK AGAIN.

Whilst this booklet is current at the time of print, any updates will be downloadable by visiting www.ndtg.training

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DO'S AND DON'TS FOR DEMOLITION

This information should be of benefit to all site based personnel.

- A tidy site is a safe site
- A safe site is an efficient site
- A safe workforce is a competent workforce
- A safe Manager will manage safely
- A safe Company will gain in reputation and improved profitability.

- DO:** Walk around the building and access route with your Supervisor before starting structural demolition works, be familiar with the structure and location of adjacent buildings, service runs and retained areas.
- DO:** Work in strict accordance with the agreed method statement, ask for advice if you are not sure of the buildings construction.
- DO:** Agree on your work area and exclusion zones with the Supervisor and Banksman/Traffic Marshall.
- DO:** Discuss the work with your Banksman/Traffic Marshall so that he is aware of your intentions.
- DO:** Arrange and agree a means of communicating with your Banksman/Traffic Marshall.
- DO:** Check your machine before use for defects and that attachments are properly fitted.
- DO:** Check for overhead and proximity hazards before travelling or working the machine.
- DO:** Ensure that quick hitches, if fitted, work correctly and are used in accordance with manufacturer instructions.
- DO:** Ensure that the machine has the capability to reach the structure to be demolished.
- DO:** Consider building a raised hard core platform where necessary to provide a safe reach capability. Ensure that the platform is well compacted and constructed as per NFDC guidance notes for use of High Reach machines.

PLANT OPERATORS

- DO:** Check for basements, ducts, pipelines, voids and underground tanks. Back fill correctly before travelling or working over with a machine.
- DO:** Ensure that you demolish with the machine facing the structure, track motors to the rear and the boom is kept within the designed working radius.
- DO:** Work progressively from the top down to reduce the structure in a systematic and progressive manner.
- DO:** Tell your Supervisor if you see others taking risks.
- DO:** Ensure that dust suppression equipment is fully operational and working efficiently.
- DO:** Leave your machine with the equipment lowered to the ground, stopping the engine, removing the keys and wearing the appropriate RPE & PPE.



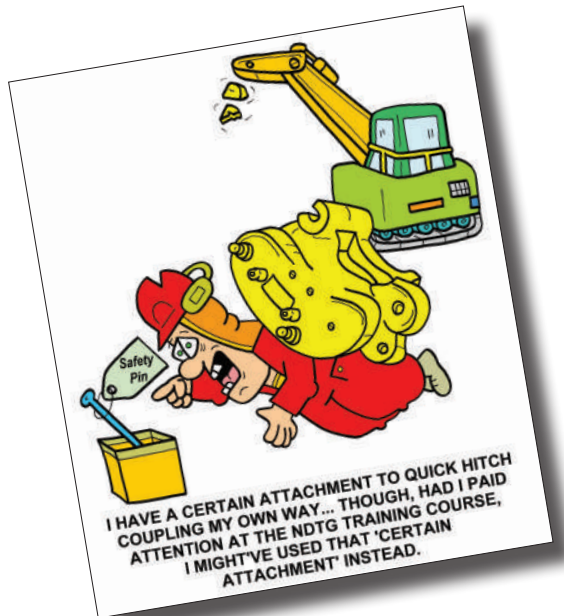
- DO NOT:** Allow debris to accumulate and overload partially demolished floors.
- DO NOT:** “Stretch” outside the machine’s designed working radius or work cross track.
- DO NOT:** Travel on uneven ground with the boom raised.
- DO NOT:** Allow untrained or inexperienced operatives to operate your machine without adequate and suitable supervision in place.
- DO NOT:** Allow any person into machine working exclusion zone.
- DO NOT:** Use rebar or other material to retain attachment pins.
- DO NOT:** Remove asbestos containing materials without the proper training.

IF IN DOUBT, ASK ABOUT THE
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PROCEDURES OR PROCESSES

EXCAVATOR QUICK HITCH DEVICES

- DO:** Only use quick hitch attachments for which you have been specifically trained.
- DO:** Use the manufacturer's connection procedures which must be followed at all times.
- DO:** Establish a safe zone, free from other workers when undertaking any detachment or attachment activities.
- DO:** Ensure that only the manufacturer's-specific retaining pin is used on manual and semi-automatic hitches.
- DO:** Ensure that the locking pin has been visually checked and is correctly in place on the quick hitch before starting the work and every time a different attachment is fitted.
- DO:** Use the 'Bump' test to ensure the attachment is secure before starting work.
- DO:** Report any suspect or defective quick hitch coupler immediately to your supervisor. If defect is found, quarantine until rectified.
- DO:** Be aware that when using a quick hitch, this will extend the operating radius which may cause the attachment to come in contact with the cab.
- DO:** Remember that when fitted with a 'Quick Hitch' coupler the overall weight of the machine will be increased and therefore it may have an effect on the stability of the machine when the boom and dipper are fully extended.

- DO NOT:** Operate machine without the proper locking pins in place
- DO NOT:** Swing the bucket or attachment over the workers and **NEVER** let workers under the bucket or attachment.
- DO NOT:** Operate the quick hitch without the supplemental safety device in place. E.g. Locking Pin.
- DO NOT:** Use Locking pins which have not been designed for this specific use.
- DO NOT:** Operate an unsafe quick hitch report the defect immediately to your supervisor.
- DO NOT:** Use any equipment if you have not been trained on its operation and maintenance.
- DO NOT:** Use the coupler to pick and place using the front lug only.
- DO NOT:** Operate the machine when there is anyone in close proximity.



DEMOLITION OPERATIVES

- DO:** Make sure that you have a Hard Hat, Hi-Viz and Safety Boots and any other PPE/RPE as identified within the risk assessment, method statement and site induction, before going into site work zone
- DO:** Sign in and out of site.
- DO:** Ensure you attend the site induction and have received and understood all information concerning Asbestos & Hazardous Waste.
- DO:** Ask for further Personal Protective or Respiratory Equipment for any given task i.e., Hands, Eyes, Ears, Skin and Breathing protection.
- DO:** Ensure RPE is suitable for the planned task and is face fitted to you.
- DO:** Ask your Supervisor if you are not sure of the intended work Method.
- DO:** Tell your Supervisor if you have not been trained or are unfamiliar with a particular job.
- DO:** Inform your Supervisor if you see someone working unsafely.
- DO:** Inform your workmates if you see a hazardous or unsafe situation.
- DO:** Report to your supervisor if you see any material that could contain asbestos that is not identified on the Demolition & Refurbishment Survey. **STOP** work & **CLEAR** the area.
- DO:** Ensure that safety fencing or barriers erected for site safety are maintained and secure at all times.
- DO:** Wash your hands before eating, drinking or smoking.
- DO:** Remove overalls and wash before taking meal breaks or going home.

- DO NOT:** Start work until you have been inducted to the site.
- DO NOT:** Start work until you have read or have had the Method Statement plus associated Risk Assessments (RAMS) explained to you and that you have signed the method statement or Briefing sheet to acknowledge you have understood its contents.
- DO NOT:** Start work until you have been inducted on the content of the Demolition & Refurbishment Survey, and importantly any designated **“NO GO AREAS”**.
- DO NOT:** Start work until you have been instructed on the correct use of any PPE/RPE issued.
- DO NOT:** Use RPE if not face fit tested.
- DO NOT:** Attempt to do work that you are unfamiliar with or have not been trained for.
- DO NOT:** Place a board or solid sheet over a hole or void without marking the hazard and informing your Site Supervisor.
- DO NOT:** Work at height without adequate personal protection (edge protection, and safe working platform and fall arrest equipment).
- DO NOT:** Leave the site access gates open.
- DO NOT:** Unclip the ‘heras’ fencing when accessing or exiting site unless in an absolute emergency.

WORKING WITH ASBESTOS

Asbestos fibres kill over four thousand each year in the UK from asbestos-related diseases; this is due to past exposure from working on materials that contained asbestos.

Thousands of tons of asbestos, placed into over three thousand products, are still in place in older buildings. The danger to you comes from drilling, cutting, breaking or disturbing materials made from asbestos and breathing in the fibres.

You will find asbestos:

- As a sprayed insulated coating on steelwork and concrete, etc.
- As lagging on pipes, boilers, etc.
- As insulation board (AIB) in walls, ceiling tiles, on and within fire doors, fire breaks in the loft space, within soffit boards etc.
- As asbestos cement for roof and wall coverings, pipes and tanks, etc.
- In some decorative plasters. (Artex)
- As gaskets, braided cloths, rope and seals.

This list is indicative only. Asbestos materials may be found in many locations; even under the slabs and within the walls and frame of a building.

NO DEMOLITION & REFURBISHMENT SURVEY - NO WORK SHOULD COMMENCE.

If any suspect material is found that is not within the Demolition & Refurbishment Survey, treat it as asbestos, vacate the area until the material has been tested by a qualified, competent person and the results are known.

Depending on the result the work may have to be carried out by a licensed asbestos removal contractor.

All Demolition Operatives should have attended an Asbestos Awareness Course as a minimum.

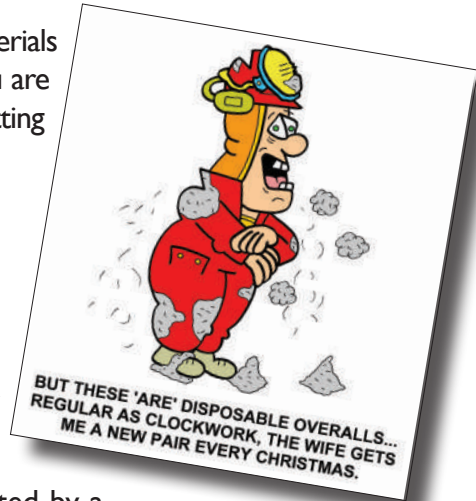
Further training is necessary for the removal of Asbestos Materials.



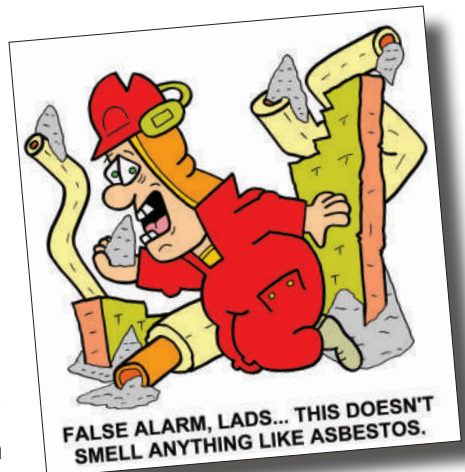
- DO:** Use the safe work methods and equipment your employer provides.
- DO:** Prevent asbestos fibres being released and keep exposure to as low a level as possible.
- DO:** Consider all working methods, particularly the use of Remote Demolition as a safer work method. This may be applicable when removing roof sheets as there may be a greater risk of falling at height.

WORKING WITH ASBESTOS

- DO:** Study the Demolition & Refurbishment Survey for asbestos containing materials where you are working. Make sure you read and understand the asbestos survey. **IF IN DOUBT ASK.**
- DO:** Keep asbestos containing materials (including waste) damp while you are working on them. Using a wetting agent where practicable.
- DO:** Wear disposable coveralls when working with asbestos containing materials.
- DO:** Wear a properly fitted mask when working with or handling asbestos containing materials.
Note: masks should be face fitted by a competent person.
- DO:** Use hand tools instead of power tools.
- DO:** Double wrap and seal asbestos waste using 1000 gauge polythene. Label the outer one to show that it contains asbestos and place in a lockable container.
- DO:** Bag or wrap small sections of asbestos containing waste in correctly labelled bags and place in a designated asbestos waste container.
- DO:** Decontaminate fully before breaks and before you go home.
- DO:** Make sure your workmates understand the dangers.



- DO:** At the end of the shift, place all disposable masks and overalls into correctly labelled asbestos bags.
- DO:** Ensure that on site air monitoring, dust suppression techniques and environmental issues are discussed and outlined within the Method Statement.
- DO:** Insist on personal monitoring to allow you to check your own levels of exposure.
- DO:** Ensure that the Method Statement is understood by all parties involved in the removal process.
- DO NOT:** Touch, go near or remove any asbestos containing material if you have only had awareness training.
- DO NOT:** Carry out the removal of ANY asbestos containing material unless you have received the appropriate training.
- DO NOT:** Use power tools on asbestos materials; they create dust.
- DO NOT:** Take protective or everyday clothing contaminated with asbestos home for washing.



ENVIRONMENTAL SUSTAINABILITY

- DO:** Refer to the pre-demolition audit to identify materials suitable for re-use and recycling where ever practical to do so.
- DO:** Ensure all materials removed during demolition are segregated and recorded for inclusion in the Site Waste Management Plan (SWMP).
- DO:** Ensure all segregated materials are reused or recycled wherever possible. (Some Hazardous waste can still be re used or recycled).
- DO:** Ensure water used for damping down is properly contained and filtered before being allowed to discharge into the main drainage network.
- DO:** Report to your Site Supervisor any materials or substances you are not sure of.
- DO:** Use suitable and adequate PPE/RPE as instructed whilst handling demolition arisings.

- DO NOT:** Handle or remove any materials if you suspect they could be hazardous or cause personal injury.
- DO NOT:** Mix demolition arisings unnecessarily.
- DO NOT:** Mix hazardous wastes.
- DO NOT:** Lose any waste transfer notes.

WORKING AT HEIGHT

- DO:** Check that a pre-start inspection to identify areas of structural weakness has been carried out by the site supervisor.
- DO:** Assess weather conditions: pay particular attention to early morning frost, heavy and driving rain, strong winds etc.
- DO:** Ensure that access scaffolding has been inspected and a hand over certificate is issued prior to use. Note: a scaftag system is a useful tool to gauge a scaffolds condition or status providing it is used in conjunction with competency checks.
- DO:** Ensure that access ladders are of industrial standard in good condition and are securely tied or footed at the correct angle 75 degrees.
- DO:** Employ scaffold or MEWP to gain safe access.
- DO:** Ensure edge protection consisting of securely fixed guard rail, intermediate rails and toe boards are in place.
- DO:** Ensure barriers and warning signs are around 'Drop Holes' through floors.
- DO:** Ensure that any bumps stops used are maintained and checked regularly.



WORKING AT HEIGHT

- DO:** Erect and maintain an exclusion zone below the working area with adequate signage to inform others.
- DO:** Wear a safety harness attached to a suitable and safe anchorage point above head height when there is risk of falling.
- DO:** Ensure safety harness is correctly fitted and has an 'in date' inspection certification.
- DO:** Ensure that you have received proper training in the fitting and use of safety harness.
- DO:** Ensure safe access and egress during working procedures.
- DO:** Ensure a fall recovery plan is in place prior to commencing work.



- DO NOT:** Use any scaffolding or access equipment that has not been tested and inspected by a competent person.
- DO NOT:** Cover holes in floors with sheet materials, without erecting hazard signs and reporting it to your Site Supervisor.
- DO NOT:** Work at height without adequate edge protection.
- DO NOT:** Overload floors; clear away arisings progressively.
- DO NOT:** Remove any temporary support systems.
- DO NOT:** Remove any scaffold ties.
- DO NOT:** Use ladders as a working platform.
- DO NOT:** Work at height when other safer work methods are available.
- DO NOT:** Work directly above live areas, where members of the public are present or around the access/egress areas.

**IF IN DOUBT, ASK ABOUT THE
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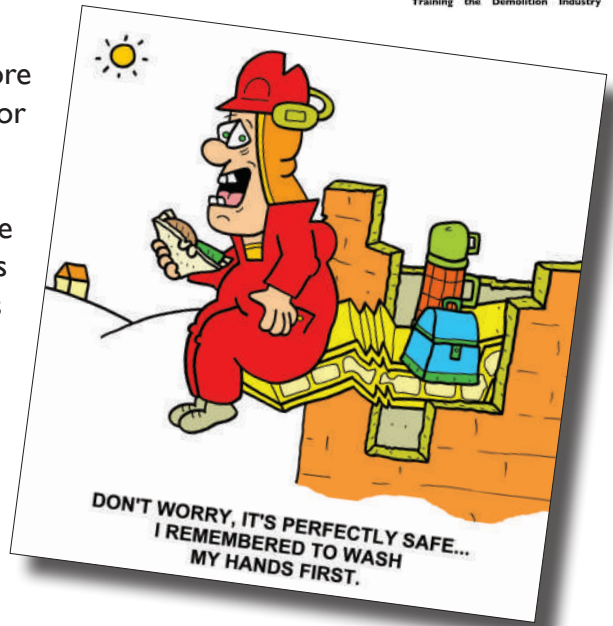
INTERNAL STRIP OUT

- DO:** Be aware of hazards that may be present when handling abandoned waste. Refer to Method Statement and associated Risk Assessments and Asbestos Survey – Building Register.
- DO:** Ensure safe access and egress to the works areas are maintained at all times.
- DO:** Ensure that you know where to muster in the event of a fire or emergency arising and that you can recognise the alarm when given.
- DO:** Clean up as work progresses: be aware of possible foot penetration injuries.
- DO:** Look out for needles and other sharp objects that may well be contaminated, if you cut yourself report to your supervisor immediately.
- DO:** Prevent overloading of floors, clear obstructions progressively.
- DO:** Drop materials into a controlled area, create a dedicated drop zone with suitable barrier fencing.
- DO:** Always wear, suitable, adequate and appropriate PPE/RPE.



DO: Wash before eating, drinking or smoking.

DO: Erect suitable physical barriers around any areas where soft stripping has resulted in a risk of fall or injury and report this to your workmates and Supervisor.



DO: Remove arisings from site progressively to prevent a build-up and fire hazard.

DO: Follow the current Method Statement and Risk assessment at all times.

DO: On completion of work, remove all working tools and inspect all areas to ensure they are left in a safe condition.

DO: If carrying out any hot cutting work clear the area of all combustible materials. Ensure that all work is carried out in accordance with the fire safety plan.

DO: If any hot cutting has taken place stop work at least 1 hour before end of each shift and check for any possible fire risk.

DO: Work from the top when removing internal walls and partitions Ensure that before removing a structural element, a properly designed support system is in place, if and when required.

INTERNAL STRIP OUT

- DO NOT:** Remove any load bearing structure **Note:** your supervisor should advise you of this status and it will be identified within the RAMS.
- DO NOT:** Use disc cutters/grinders unless you are trained in their use.
- DO NOT:** Under-cut internal walls during strip out.
- DO NOT:** Allow heavy material to accumulate on floors.
- DO NOT:** Drop or throw materials from height onto unsupported floors or into uncontrolled areas.
- DO NOT:** Drop any soft strip materials from height in windy conditions.
- DO NOT:** Remove support systems.
- DO NOT:** Remove any soft strip material that may contain asbestos or other contaminated materials/ substances unless trained and authorised to do so.

Site Supervisor to secure site and ensure all materials are stacked in a safe manner so as to eliminate risk of further hazards.

IF IN DOUBT, ASK ABOUT THE
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Lifting Operations & Lifting Equipment Regulations LOLER

- DO:** Ensure a certificate of competence is held by the named qualified appointed person responsible for any planned lift.
- DO:** Ensure that a 12 monthly certification for maintenance and inspection of the plant being used is in place and a 6 monthly examination certificate for man riding access equipment and all ancillary lifting equipment.
- DO:** Check that Operator and Banksman are competent and hold current training certification and are fully briefed on the task.
- DO:** Name a qualified appointed competent person to ensure that ground conditions are suitable for type of equipment and lift to be made.
- DO:** Ensure that all Operators of plant hold current training certificates.
- DO:** Ensure that the operational traffic routes are clear and suitably secured to prevent others from accessing the area.
- DO:** Make available a written safe working plan of work by the appointed person, prior to any lifting operations taking place.
- DO:** Ensure that the crane driver has been fully briefed and that he recognises and understands all signals and instructions to be given by the crane coordinator and/or signaller.
- DO:** Ensure all lifts are free lifts and free of snags.

OXY-PROPANE CUTTING (HotWorks)

- DO:** Ensure hot work operatives are competent, having undertaken training and instruction and are in possession of a valid oxy-propane course certificate.
- DO:** Ensure that all safety features are in place before hot cutting, i.e. in line flashback arrestors, end of pipe non return valves.
- DO:** Personally check that your hot cutting equipment i.e. burning guns, gauges, flashback arrestors and gas bottles are clean and free from oils or grease and are fitted with approved connectors.
- DO:** Ensure that the full and empty oxy propane gas bottles are stored in a secure location at all times. Fuel gases must be 3m apart from oxygen bottles and kept in a well ventilated and secure area.
- DO:** Clear combustible materials away from hot works and adjacent areas.
- DO:** Ensure that cutting work is carried out in a planned sequence taking due care to ensure the stability of the remaining structure.
- DO:** Place damped material or sand below cutting point as necessary.
- DO:** Ensure fire-fighting equipment is on hand during all hot works.
- DO:** Erect physical barriers and warning signs around the hot cutting area.
- DO:** Provide sufficient information, instruction, training and supervision.

COATED SURFACES

- DO:** Obtain analysis of any coatings, i.e. lead paint, two-pack paints or other hazardous materials.
- DO:** Ensure Operatives are aware of the risks of working with lead in paint or other hazards, and appropriate RPE.
- DO:** Adopt strict personal hygiene requirements, using hot water, soap and towels.
- DO:** Provide a hot cutting exclusion zone.
- DO:** Wear appropriate respiratory protection fitted with correct filters for the hazard present. Employ 'airflow' respiratory protection wherever available.
- DO:** Ensure that all personnel not engaged in the works are upwind and clear of the hot works area.

TANKS, CONTAINERS, PIPELINES AND VESSELS

- DO:** Wherever practicable employ cold cutting methods – e.g. mechanical shear.
- DO:** Operate a permit to work system.
- DO:** Be aware that combustible/explosive substances/residues may be present within, pipes, tanks and vessels etc.
- DO:** Ensure gas test and purging of pipe-work, tanks and vessels is carried out prior to starting work.

OXY-PROPANE CUTTING (HotWorks)

- DO NOT:** Fix or repair any leaking equipment. Get it replaced.
- DO NOT:** Operate hot cutting equipment within an enclosed space because of fumes, leakage of fuel and or oxygen gases.
- DO NOT:** Use Oxygen to blow dust off clothing.
- DO NOT:** Carry or use petrol or gas lighters to ignite the cutting torch. Use only approved flint guns.
- DO NOT:** Rely on existing site fire points. Ensure additional fire extinguishers are in place prior to commencement of hot works.



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HAND HELD PERCUSSIVE TOOLS

- DO:** Ensure that the equipment is in good working order and that the points/chisels are sharp.
- DO:** Ensure that all hand operated tools are fitted with anti-vibration handles.
- DO:** Ensure that Risk Assessment and Method Statement contain adequate provision to eliminate or reduce the risk of hand arm vibration and upper limb disorder.
- DO:** Ensure you are briefed in maximum usage time per shift.
- DO:** Ensure that all Operatives have been trained and hold relevant certificates for the equipment in use.
- DO:** Establish a Hearing Protection Zone around the work area and post notices to warn anyone approaching.
- DO:** Ensure that all hearing protection is worn if the noise levels are at or above the upper exposure value.
- DO:** Ensure that break and rest times are strictly adhered to at all times in accordance with the Exposure value limit.
- DO:** Keep operative exposure records.
- DO:** Wear gloves when using power tools to keep hands protected and warm to aid in good blood circulation.
- DO:** Provide mechanical solutions to replace hand working where ever possible.
- DO:** Consider all other personnel and or members of the public when required to operate noise and vibration inducing equipment.
- DO:** Provide 'split lines' or breaks in the structure where practical and possible to reduce the transmission of noise and vibration.



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