

1. PPE is your last line of protection should an accident occur. Steps to mitigate the chances of an accident should already have been taken in the form of a risk assessment, method statements, a pre-start meeting and a point of work assessment.
2. PPE is provided free to all Torr engineers and training in its use is provided. PPE should be worn, where appropriate to the task, at all times.
3. PPE provision and condition is recorded on the job pre-start form.
4. Many sites, especially construction sites have minimum PPE requirements and these must be adhered to strictly. Requirements are displayed before the entrance to a work site. These usually require a minimum of work trousers, steel to capped boots, hi vis vest, hard hat, gloves and eye protection.
5. Additional PPE may be required for specific tasks with specific risks attached to them. These requirements will be assessed prior to work starting and the necessary provisions made.
6. In noisy environments you will be required to wear ear defenders. This would apply to areas in excess of 85dB (approximately equivalent to the noise of a power drill). In some extremely noisy environments, it may be necessary to wear double ear protection. This is usually in-ear plugs and outer-ear defenders.
7. We do not undertake any work requiring breathing apparatus; however, work in dusty areas will require operatives to wear dust masks. This will include for example blowing out condensers with nitrogen, cutting metals/plastics with cutting discs which produce airborne particles.
8. Harnesses must be worn by all trained MEWP operatives in boom lifts and scissor lifts. Correct MEWP harness anchor points are labelled, easily identified, and must be used. Harnesses are kept secured at head office and will be issued as required.
9. Harnesses must be inspected prior to use. Pre-use checks should be tactile and visual. The whole lanyard should be subject to the check, by passing it slowly through the hands (eg to detect small cuts of 1 mm in the edges, softening or hardening of fibres, ingress of contaminants). Clips, loops & karabiners must be inspected for any signs of damage or malfunction. A visual check should be undertaken in good light and will normally take a few minutes.
10. Harnesses must be used in conjunction with a fall arrest lanyard. These lanyards may be of energy absorbing & non-energy absorbing types. Lanyards must be subjected to the same pre-use inspection above for harnesses. Harnesses & lanyards used by Torr are subject to a maximum safe working load of 150kg = 23.6 stones. This SWL must not be exceeded.
11. A laminated pre-inspection guide is included with all issued harnesses & lanyards.
12. Helmet tethers should be worn when working at height.
13. Employees are responsible for taking care of their own PPE and ensuring it is fit for purpose. Hard hats have expiry dates stamped on the inside which should be checked periodically.
14. If any items of PPE are lost, damaged, ill-fitting or in any way not fit for purpose, employees must inform a director to ensure the correct replacements can be issued.
15. Do not undertake any task you do not feel safe doing. Stop work and contact a director.

1. Contact client's manager to gain permission and where applicable to advise of work to be carried out.
2. Where required, complete Hot Work Permit and adhere to any rules or requirements stipulated over and above these procedures.
3. Visually inspect brazing equipment for any signs of damage. After opening valves, check for leaks.
4. All employees undertaking brazing / hot works must be fully conversant with the site's fire alarm policy including how to raise an alarm and muster point locations and procedures.
5. Any engineers brazing under a hot work permit must have a competent secondary engineer adequately trained and acting as firewatcher.
6. Fire extinguishers of the correct type must be present and within reach.
7. Arrange for isolation of any fire alarms and heat sensors if in the vicinity of the working area.
8. Cordon off the work area to prevent the entrance of unauthorised personnel.
9. In addition to any minimum PPE requirements, eye & hand protection must be used while brazing. In cases where fumes may be created (brazing existing pipe work that previously contained refrigerant & oil) care should be taken to ventilate the area fully, and further assessment of the risk may be required to determine if masks / ba is required.
10. Where possible, all flammable materials should be removed from the vicinity of the brazing works.
11. Where this is not possible, suitable guards must be used to protect any flammable materials in the vicinity of the works. This may take the form of metal sheeting, mineral fibre boards, fire-retardant blankets, wet rags or a combination of such. Check that there are no combustible materials hidden behind walls or in partitions, particularly if the brazing or cutting will go on for some time. Some wall panels contain flammable insulation materials, eg polystyrene. Use flame-resistant sheets or covers to prevent hot particles passing through openings in floors and walls (doorways, windows, cable runs, etc).
12. A final firewatcher inspection must be made of the work area no sooner than 30 minutes after hot work has been completed.
13. In the event of a fire that is deemed safe to tackle, the most senior fire trained engineer should take responsibility for fighting the fire. Upon successful completion, the incident must be reported for investigation.
14. In the event of a fire that is deemed too large or safe to fight, the most senior engineer should take responsibility to raise the site alarm and ensure all employees within their workgroup retreat to their correct muster point as identified in item 4.
15. Hot work permits must be signed off in accordance with the site's procedures.
16. Emergency action plans will be reviewed at least on an annual basis as part of the company annual review. Findings through our own and client's policies, actions, training, and experiences, including industrial and technological improvements and HSE guidelines, will all form part of this process. Updates to emergency action plans will be implemented and communicated to all staff.

1. Contact client's manager to gain permission and where applicable to advise of work to be carried out.
2. Wear the appropriate PPE to each task (see PPE-01)
3. Isolate system electrically (see SMS-03).
4. Remove refrigerant (see SMS-04).
5. Close off all isolation valves.
6. Label equipment stating that it has been decommissioned and emptied of refrigerant. Date and sign.
7. Remove/store decommissioned equipment as prior agreement.

1. No persons shall engage in any work activity on or near any live conductor unless adequately trained to do so and a full risk assessment has been undertaken. Where possible, engineers should not work alone. Adequate working space and lighting must be in place when working on any electrical circuits. All electrical equipment must be protected from adverse condition exposure.
2. For work on LV electrical equipment or circuits, it is important to ensure that the correct point of isolation is identified, an appropriate means of isolation is used, and the supply cannot inadvertently be reinstated while the work is in progress. Caution notices should also be applied at the point(s) of isolation, and the conductors must be proved to be dead at the point of work before they are touched.
3. **Isolation using a main switch or distribution board (DB)**
Isolation of equipment or circuits using the main switch or DB switch-disconnector is the preferred method. The point of isolation should be locked off using a unique key or combination retained by the person carrying out the work. In the case of multiple isolations on a DB, a multi-lock hasp can be used to prevent access to a main isolator until such time that all persons working on a system have completed their work and removed their padlocks from the hasp. If locking-off facilities are not provided on the relevant switch then a locked DB door or locked switch-room door is acceptable provided the key or combination is unique, and is retained by the person doing the work. Again, multi-lock hasps can be used to control multiple isolations, although a key box or similar system may be needed to retain and control access to the main door key.
4. **Isolation of individual circuits**
Where it is not practical to isolate a distribution board, individual circuits supplied from it can be isolated by one of the methods described below, depending on the type of protective device used. However, bear in mind the overriding advice to avoid energising any outgoing electrical distribution services, preferably until the distribution switchgear and all connected circuits are complete and have been inspected and the relevant tests carried out. If any items required to carry out the procedures recommended below are not manufactured for the DB in question or cannot be obtained through retail/trade outlets, it is acceptable to disconnect the circuit from the DB as long as the disconnected tails are made safe by being coiled or insulated. Suitable labelling of the disconnected conductors is important to prevent the supply being re-instated, particularly if other electricians are present.
5. **Isolation of individual circuits protected by circuit breakers**
Where circuit breakers are used the relevant device should be locked-off using an appropriate locking-off clip with a padlock which can only be opened by a unique key or combination. The key or combination should be retained by the person carrying out the work. **Note** Some DBs are manufactured with 'Slider Switches' to disconnect the circuit from the live side of the circuit breaker. These devices should not be relied upon as the only means of isolation for circuits as the wrong switch could easily be operated on completion of the work.
6. **Isolation of individual circuits protected by fuses**
Where fuses are used, the simple removal of the fuse is an acceptable means of disconnection. Where removal of the fuse exposes live terminals that can be touched, the incoming supply to the fuse will need to be isolated. To prevent the fuse being replaced by others, the fuse should be retained by the person carrying out the work, and a lockable fuse insert with a padlock should be fitted as above. A caution notice should also be used to deter inadvertent replacement of a spare fuse. In addition, it is recommended that the enclosure is locked to prevent access as stated above under '**Isolation using a main switch or distribution board (DB) switch-disconnector**'.

7. Prior to re-energising circuits

No electrical equipment should be put in service where its strength or capacity may be exceeded.

Final checks should be made to ensure all conductors and connections in a system are mechanically & electrically secured, suitable for use and covered with the correct insulating material.

Confirmation that all electrical inspection and testing procedures have been performed and passed by the relevant contractor must be sought.

1. Contact client's manager to gain permission and where applicable to advise of work to be carried out.
2. Wear the appropriate PPE to each task (see PPE-01)
3. Identify the refrigerant and its quantity to ensure the correct type and capacity of reclaim bottle/s are available.
4. Set up reclaim rig and test weighing scales are working correctly.
5. Use Safe Seal hoses to minimise refrigerant loss & risk of freeze burn.
6. Reclaim refrigerant taking care to throttle liquid until inlet port can be opened fully.
7. Once suction gauge pressure reaches zero close both ports and purge any remaining refrigerant in the reclaim rig into the reclaim bottle to ensure minimal acceptable loss.
8. Make a note of weight of refrigerant removed before removing any hoses etc.
9. Ensure all ports and reclaim bottle are shut off and remove rig.
10. If necessary, mark decanted unit as 'Refrigerant Removed' along with date of removal.
11. Record all details of the refrigerant and reasons for removal etc on the relevant Hazardous Waste Consignment Note.
12. Ensure the client receives a copy of the Hazardous Waste Consignment Note.
13. Once hazardous waste has been taken to the relevant handling centre, all records must be sent to head office for retention and future inspection by Defra / Refcom etc.

1. Contact client's manager to gain permission and where applicable to advise of work to be carried out.
2. Wear the appropriate PPE to each task (see PPE-01)
3. Identify the refrigerant and the quantity required.
4. If a new install, verify that the system has been leak & pressure strength tested.
5. Use Safe Seal hoses to minimise refrigerant loss & prevent freeze burns.
6. Evacuate the system using either the triple vac method breaking with dry nitrogen or the deep vac method.
7. Ensure weighing scales are operating correctly and verify bottle & refrigerant weight.
8. If charging the system with a zeotropic blend, ensure the refrigerant bottle is inverted so that liquid is charged and not just gas.
9. Purge refrigerant through lines to ensure no air is present then bomb charge the receiver to the required metered charge or until system and bottle pressures equalise.
10. If further refrigerant is required once system and bottle pressures have equalised, first ensure the HP / LP switch is set up correctly.
11. The system may now be run allowing liquid if zeotropic or gas if azeotropic to be bled slowly into the compressor suction port.
12. If bleeding liquid into the compressor it must be done very slowly in short bursts of approximately 0.5 bar above running pressure.
13. Weigh scale reading may now be used to complete critical charge or the sight glass may now be used to charge non-critical systems.
14. Once required charge is attained, close off refrigerant bottle and use suction pressure to purge any remaining refrigerant from the charging hoses.
15. Once purged, hoses may now be removed with minimal acceptable loss of refrigerant to the atmosphere.
16. Note the reason, type and amount of refrigerant used for entry into the company refrigerant log.
17. If and where required enter the same details into the clients service records.

Structure:

1. Contact client's manager to gain permission and where applicable to advise of work to be carried out.
2. Wear the appropriate PPE to each task (see PPE-01).
3. Suitability of the structure you are going to gain access to, fix equipment to or fix pipe work on.
4. If in doubt, request information from supervisor, architect, customer, site agent or foreman.
5. See risk assessment Working at Heights (SMS-14).

Fixings:

1. Contact client's manager to gain permission and where applicable to advise of work to be carried out.
2. Wear the appropriate PPE to each task (see PPE-01).
3. Use correct equipment conforming to The Provision and Use of Equipment Regulations. Electrical equipment should conform to current standards and be either 110 volt or portable (battery operated). Express permission must be gained if for any reason 240v needs to be used. Any 240v equipment must be used in conjunction with a RCD Circuit Breaker.
4. Become familiar with the structure and position of services.
5. Use correct access equipment and refer to relevant SMS document for chosen equipment.
6. Use correct method of fixing.
7. Gain permission from client to fix in the area, advise of noise/dust etc.
8. Ensure there are no hazards.
9. Check routing of all cables, gas and water pipes, services etc.
10. Switch off electricity supply/gas/water supply as appropriate.

1. Contact client's manager to gain permission and where applicable to advise of work to be carried out.
2. Wear the appropriate PPE to each task (see PPE-01).
3. All works to be carried out as per client's specification.
4. Ensure sufficient clearance is allowed for expansion and contraction of pipework during operation of the system.
5. Remove all debris from pipe ducts.
6. All pipe supports to be firmly fixed.
7. All fittings and pipes to have brazed connections, unless mechanical joints have been specified (see SMS-01).
8. Where specified by client/installation/contract, low pressure dry nitrogen will be passed through sections of pipe work while brazing operations are carried out to prevent scale formed by oxidation.
9. All work areas to be cordoned off.
10. All dry nitrogen bottles must be secured and fitted with a pressure reducing regulator and gauge.

1. Ensure correct identification and selection of material by design and client requirements.
2. Where possible use full lengths to minimise the number of joints.
3. Ensure that during application of joint adhesive, if flammable, there are no naked flames or other sources of ignition.
4. Apply adhesive observing instructions given on packaging, instruction sheet and safety data sheet.
5. Where required/specified or deemed necessary, both glue and tape joints.
6. Take care when cutting lagging. Use a sharp knife and cut away from the bod / hands. Have a workmate hold the lagging where possible.

1. Contact client's manager to gain permission and where applicable to advise of work to be carried out.
2. Wear the appropriate PPE to each task (see PPE-01)
3. Refer to The Electricity At Work Regulations Document.
4. Refer to Electrical Isolation Document (SMS-03).
5. Establish what type of joint is required.
6. Check the system voltage.
7. Check the connection is suitable for the environment.
8. Check that the connection is suitable for the equipment.
9. Check the current carrying capacity of the connection.
10. Joints required for portable equipment may require special attention as these may be handled live.

1. Contact client's manager to gain permission and where applicable to advise of work to be carried out.
2. Wear the appropriate PPE to each task (see PPE-01)
3. Identify any maximum pressure constraints on any equipment being tested from manufacturers installation documentation or the manufacturer directly (see contact information document).
4. Identify the refrigerant in use and mark this on the Leak/Pressure test certificate for easy identification of pressures to be used, remembering not to exceed any manufacturers recommended test pressures.
5. Ensure the vicinity of the pipe work under pressure strength testing is clear and inaccessible to any personnel.
6. Ensure correct pressure regulating gauge is securely attached to oxygen free nitrogen (OFN) bottle and the regulator is in the fully closed position (fully turned clockwise).
7. Do a visual inspection of all equipment, joints and gauge lines before opening the OFN bottle.
8. Increase pressure slowly in no more than 3bar (40psi) increments.
9. Follow testing procedures laid down in the Leak/Pressure test certificate.
10. Record all test pressures, durations and witnesses for each system under pressure.
11. On completion of testing OFN may be carefully vented into the atmosphere. Care must be taken to ensure proper ventilation if the venting point is not directly outdoors to prevent reduction in oxygen levels.

1. Contact client's manager to gain permission and where applicable to advise of work to be carried out.
2. Wear the appropriate PPE to each task (see PPE-01)
3. Refer to any manufacturer's documentation on final commissioning checks.
4. Check compressor oil level is correct.
5. Check installation wiring is correct.
6. Check & adjust HP/LP switch settings.
7. Do a dry run on electrical control circuit with the compressor fuses removed.
8. Operate the compressor and monitor suction and discharge pressure suction return, temperature oil level, pressure and electrical current.
9. Regularly check oil level in compressor crankcase.
10. Fine tune HP/LP switch.
11. Do not allow suction and discharge pressure to rise or fall outside the application range.
12. Check the electrical current regularly.
13. Check expansion valve superheats.
14. Adjust finally all safety pressure and temperature controls.
15. Check rotation of fan motors.
16. Final leak test.
17. Complete all checks in commissioning certificate.
18. Instruct personnel in the operation of the equipment.
19. Make sure service manual is left on site.

1. Contact client's manager to gain permission and where applicable to advise of work to be carried out.
2. Wear the appropriate PPE to each task (see PPE-01)
3. Refer to any manufacturer's documentation on general system service/maintenance.
4. Work through specific maintenance checklist where provided.
5. Ascertain what access equipment will be required.
6. Refer to the SMS documents for all risk associated tasks within the maintenance routine, specifically but non exhaustively: working at heights, electrical isolation, electrical connection.
7. Be familiar with any cleaning materials/substances being used and ensure the appropriate COSHH sheets are read and to hand.
8. Where deemed necessary, clear the area of any personnel if there is a risk of falling objects, trip hazards etc, and cordon off area to prevent access.
9. Filters to be removed from the indoor a/c units and cleaned & sanitised outside.
10. Unit casings to be cleaned and sanitised.
11. Condensing units to be cleaned and blown through with nitrogen where necessary.
12. Check electrical connections.
13. Check / clean drains & pumps. Add drain tablets where necessary.
14. Check system for satisfactory operation once maintenance is completed.
15. System checked for refrigerant leaks (in accordance with the F Gas regulation and competent engineers with the city & guilds 2078/9 refrigerant handling certificate) when leak tests are due.
16. Record and report any problems found.
17. Follow any site specific procedures for logging work carried out.

1. This Safety Method Statement refers to all MOBILE ELAVATED WORK PLATFORMS (MEWPS).
2. Working at height should always be avoided if there are other practicable methods of undertaking the required task.
3. The method of working at height must be properly assessed by a competent person, who is also trained and competent to undertake the task where working at height is necessary. The competent person must be knowledgeable with the benefits and limitations of all methods being considered.
4. All personnel operating a MEWP must be trained and certificated to use the specific equipment.
5. Before use, a trained operator is responsible for carrying out a basic daily/pre-use inspection and function check. Records of this check must be recorded on the MEWP checklist and kept.
6. Check for in date equipment inspection certificate of last thorough examination of MEWP.
7. Wear the appropriate PPE to each task (see PPE-01).
8. If in use, check for in date equipment inspection records for restraint harness and adjustable lanyard.
9. Check the SWL of the MEWP and ensure this not exceeded. Remember to account for the weight of tools & equipment and not just operators in the platform.
10. Check the ground conditions are suitable for the equipment. Be aware of floor hazards, slopes, pot holes, ramps, gradients, drains, inspection covers etc.
11. Use a banksman while maneuvering the Mewp wherever possible, essentially in areas where public may be encountered. Once in position ensure the work area is cordoned off from the public.
12. If the mewp is going to be used outside check impending weather conditions. Be aware that rain may affect the ground under the MEWP. Check maximum allowable safe working wind speeds. Take into consideration the effect of wind funneling while working in built up areas. Be alert to fast changing weather conditions and the risk of Lightning storms & strikes.
13. Weather conditions can also affect the operator as well as the MEWP. Take precautions against Sunburn, wind chill & hypothermia.
14. MEWPS must not be operated by anyone with a history of vertigo or any other such medical condition, including anyone under the influence of drugs (prescription or otherwise) that may cause drowsiness.
15. Before any operation a Take Time Rescue & Escape plan must be completed AND understood by all operators and anyone else involved.

1. Where possible by other means, working at height must be eliminated.
2. The method of working at height must be properly assessed by a competent person, who is also trained and competent to undertake the task where working at height is necessary.
3. Ladders can be used if after competently assessing the risks to be acceptable, the use of more suitable work equipment is not justified because of the low risk, short duration or general practicality.
4. Short duration is taken to be between 15 and 30 minutes depending upon the task.
5. The correct type of ladder must be chosen based on the user, circumstances, and conditions. These include but are not limited to:
 - (a) interior or exterior works
 - (b) ground and weather conditions
 - (c) material type – fibreglass etc for electrical works
 - (d) ladder height
 - (e) maximum amount of weight
 - (f) securing and tethering options
6. A point of work inspection must be done on the ladder prior to use. These inspections should:
 - (a) checking the stiles – making sure they are not bent or damaged as the ladder could collapse or buckle under any weight.
 - (b) examine the feet- if they are missing, damaged or worn the ladder could slip with insufficient grip on the ground. Also, it is important to check ladder feet when moving from soft/dirty ground (such as dug soil, loose sand/stone, or a dirty workshop) to a solid, smooth surface (e.g., paving slabs) to make sure the actual foot material and not the dirt (like soil, embedded stones, or chippings) is making contact with the ground.
 - (c) look at the rungs- if they are bent, worn, loose or missing the ladder could fail and cause an injury to the user.
 - (d) check any locking mechanisms- if they are bent or the fixings are worn or damaged the ladder could collapse. Also, ensure the locking bars are fully engaged to keep the ladder erect in the right position.
 - (e) inspect the stepladder platform – if it is buckled or split the ladder could become unstable and collapse.
 - (f) check the steps or treads on stepladders – if they have been contaminated, they could be slippery and if the fixings are loose on steps they could collapse.
7. Any steps or ladders failing any part of a pre use inspection must not be used. Unsafe equipment must be tagged as 'Unsafe - Do Not Use' and taken out of service. A director must be notified and the ladder will be disposed of and replaced.
8. Position the foot of the ladder to take into consideration the nature of the ground on which it is standing. Ladders should be on clean, solid surfaces (floors, paving slabs etc), it's important that these are fully clean (no moss, oil or leaf litter) and clear of any loose materials like sand or packing materials to ensure the feet can grip the surface properly. Keep in mind that shiny floor surfaces can be slippery even without contamination.
9. Suitable securing measures include using non slip devices such as fixed blocks, cleats, sandbags or stakes embedded in the ground. Most ladders can be fitted with nonslip feet or caps. In the absence of any of these fixing methods ladders must be footed by another operative. Ladders should be fixed at the top where practicable.

10. While using ladders: Keep your body centred within the ladder, always keep three points of contact with the ladder, Wear non-slip footwear, if necessary clean the soles before using the ladder,
11. Leaning ladders, when extended, must exceed the working height/platform by 1 metre or approximately 3 rungs.
12. A leaning ladder must be positioned at an angle of 1 in 4. E.G. One unit out for every four units up.
13. Both hands must remain free when ascending or descending ladders. Any tools/materials should be carried in a holster/pocket or be hoisted to working height.
14. Hand hold position while using ladders should be on the side rails and not on the rungs.
15. Stepladders should only be used with their feet spread fully and any locking mechanisms fully engaged. The top step should not be used as a workplace unless there is an additional handhold (e.g. an extension to the ladder or a part of the building or structure that is being worked upon).
16. For MEWPS refer to document SMS-13.
17. For tower scaffolding refer to document SMS-15.

1. Only use tower scaffolds in accordance with the maker's/hirer's instructions.
2. Tower scaffolds may only be erected or altered by operators with the correct training and certification.
3. Where practicable the tower scaffolding should be rigidly tied to the structure being worked upon.
4. Tower scaffolds should be positioned in a manner to minimise possible risks from falling objects. This may include barriering the work area to prevent inadvertent access by others.
5. If outdoors the scaffold height /base ratio should not exceed 3:1 (e.g. 6 metres high by 2 metres wide). This may be increased to 3.5:1 indoors where there is no appreciable wind loading.
6. Castors should be braked while the tower is in use.
7. The platform at working height should preferably be fully boarded, but in all cases must be a minimum 600mm wide. Where the height is greater than 2 metres guard rails must be fitted between 910mm & 1150mm and toe boards to a height of 150mm.
8. The access ladder should only be fitted to the narrow side and may be internal vertical or raking. Operatives must not climb the structure or scaffolding itself.
9. Make proper use of the adjustable legs to ensure the scaffolding is level and stable.
10. Prior to moving a tower scaffold, the route and area must be assessed for ground and aerial obstacles. Specific care must be taken to ensure the tower scaffold can not come in to contact with any overhead cables and power lines.
11. The movement of the scaffold must only take place after everyone has left the platform. The force applied to move the platform should be applied as near to the base as possible. After moving, castors must be braked and vertical alignment re-checked.
12. The maximum permitted loading of the platform will be stated by the makers/hirers, and must never be exceeded.
13. As working with ladders, tools and equipment should be raised or lowered using a holster or hoist line. Throwing or dropping such items is strictly prohibited. Both hands should remain free to facilitate safe access and egress.

1. Drivers should be aware of the associated hazards and dangers of the goods being carried.
2. These dangers and the subsequent safety precautions to be taken are listed in the Material Safety Data Sheets (MSDS) for each corresponding gas.
3. MSDS covering all gasses that are likely to be carried should be kept in the vehicle in a file.
4. A list of any gasses being carried along with their MSDS must be displayed in a prominent position within view from the exterior of the vehicle.
5. The vehicle must be identified with the relevant hazard warning diamond stickers.
6. A 2kg CO₂ fire extinguisher must be carried on the vehicle at all times.
7. PPE should be worn when handling cylinders.
8. Do not remove or deface labels provided by the supplier for the identification of the cylinder contents.
9. Care must be taken when lifting cylinders.
10. Do not handle cylinders by their valves or stem.
11. Do not drop or throw cylinders into the vehicle.
12. Cylinders must be properly secured in a vertical or horizontal position so that they cannot move whilst in transit.
13. Cylinders must never be transported in the front seat of a vehicle.
14. Acetylene cylinders should be kept upright. They may be stored horizontally; if so it is recommended they should not be used for 12 hours.
15. Cylinder valves must be in the closed position and disconnected from any equipment.
16. Care must be taken not to exceed the vehicle's maximum payload (Ford Connect: 625kg - GVW 2040kg).
17. The vehicle should be ventilated, and cylinders protected from direct sunlight and sources of heat.
18. Smoking is not allowed while loading, unloading or working with any cylinders.
19. If at any time a cylinder is suspected of leaking the vehicle must be pulled over, parked, ventilated as much as possible and the product supplier must be contacted for further advice if necessary.
20. Cylinders being delivered to site and not used immediately should be secured in a locked gas cage. Empty cylinders should be kept separate from full ones and oxygen and acetylene should be separated by a separate cage, a wall or 3m. Cylinders should be arranged so oldest stock is used first.
21. Empty cylinders should be returned to the supplier as soon as possible.

1. Grinders must only be used by trained operatives.
2. Grinder discs must only be changed by trained operatives.
3. A hard hat and full face visor to British Standard BSEN 166 grade B must be worn while using a grinder.
4. Specialist abrasion resistant gloves to British Standard BSEN 388 with a minimum mechanical standard of no less than 3.5.3.4 must be worn while using a grinder. Ensure you have no loose / hanging clothing.
5. Grinder discs must be kept in dry conditions and secured against any form of impact.
6. Prior to any inspection work or service on a grinder the tool must be unplugged from its power source.
7. Prior to any use of a grinder the tool must be thoroughly inspected for any signs of damage or abnormal wear. The grinder **MUST** have a side handle and guard fitted.
8. Prior to changing a disc, the speed rating of the disk in RPM must be checked against the speed rating of the tool. Only a disc with a maximum RPM rating that **EXCEEDS** the maximum RPM rating indicated on the information plate of the tool may be fitted.
9. Once an old disc is removed, the spindle thread and locking disc should be cleaned and inspected prior to re-fitting.
10. A new grinder disc should only be tightened down Hand Tight. The rotation of the tool will tighten the disc naturally. The Pin Key tool should only be used when removing old discs.
11. Once a new disc is fitted it should be rotated by hand to ensure free running and that the disc is turning in a straight un-impeded motion.
12. Full PPE including helmet, visor and gloves mentioned in lines 3 & 4 and hearing protection must in place prior to connecting the tool to a power source.
13. The grinder should be held away from the face, body and any other persons and run for approximately 30 seconds – 1 minute to ensure correct operation prior to cutting or grinding.
14. Grinding & cutting produces lots of sparks. Where necessary a hot works permit must be in place, any fire alarms must be isolated and every effort must be made to contain the sparks.
15. Only the thicker type grinding discs may be used for grinding. Grinding of the work should be done at a 30 degree angle on the face of the grinding disc – **NOT** the edge of the disc. Work piece must be secure.
16. Cutting is done with the thinner type cutting discs. Cutting should be done with the edge of the disc – **NOT** the face of the disc. Work piece must be secure and off cuts must fall away from the blade.
17. During all grinding work one hand should remain on the body of the tool with the other hand on the side handle. With this adopted, both hands will always be safely behind the rotating disc.
18. A grinder may **NEVER** be used one handed or without the guard or side handle in place.
19. A grinder may only be set / put down once the disc has stopped spinning.

1. All employees will receive accredited training in Safe Manual Handling Techniques.
2. If possible, try to eliminate the need for manual handling or use mechanical means to reduce risk.
3. PPE including suitable gloves and steel toe capped boots must be worn.

Handling procedure for an individual:

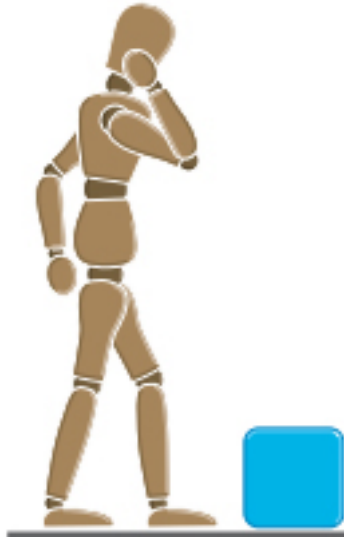
4. Plan the lift and be sure that you are capable of lifting the load comfortably unaided. Be sure that you can lift the load to the required height without overstretching.
5. It is preferable to have the heavier side of the object close to your torso, so position yourself / slide the object so that you can lift in this manner where possible.
6. Position the feet with the leading leg as far forward as comfortable and preferably pointing in the direction you intend to go.
7. Bend the knees to get down to the load - do not kneel - keeping your back straight. Keep your shoulders level and in line with your hips.
8. Keep your arms within the boundary of your legs and if possible use a 'hook' grip rather than keeping fingers straight. The type of grip may depend on individual preference.
9. Lift the load as smoothly as possible, keeping your back straight at all times. Carry the load close against your trunk.
10. Put the load down by bending your legs to lower the load smoothly and then adjust the position by sliding the object.

Handling procedure for groups:

11. Plan the lift and be sure that all members of the group are aware of the plan. Be sure that all team members can lift the load to the required height without overstretching and can lift their share of the load.
12. All team members should lift their share from the start of the lift so position the team / slide the object so that you can lift from the start together.
13. Lifting directions 5, 6 & 7 above apply to group lifts.
14. Lift the load together, as smoothly as possible, on a count (e.g. 'lifting on three, 1, 2, 3'). All team members should keep their backs straight at all times and carry the load close against their trunks.
15. Put the load down together, on a count, by bending your legs to lower the load smoothly and then adjust the position by sliding the object.
16. Refer to diagrams below.



Use mechanical means where possible



Think & plan lift



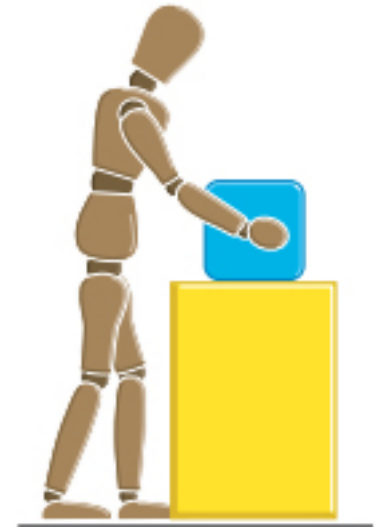
Position feet forward



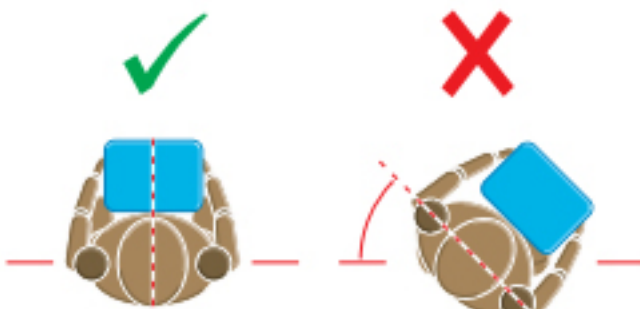
Bend knees, keep back straight



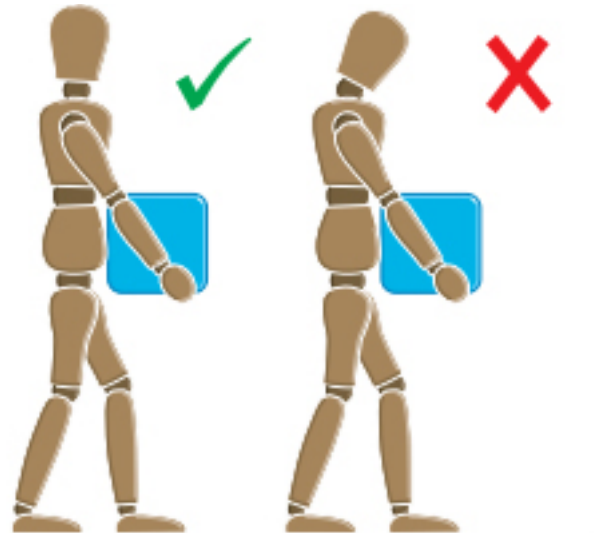
Keep load close to torso



Adjust load after placing down

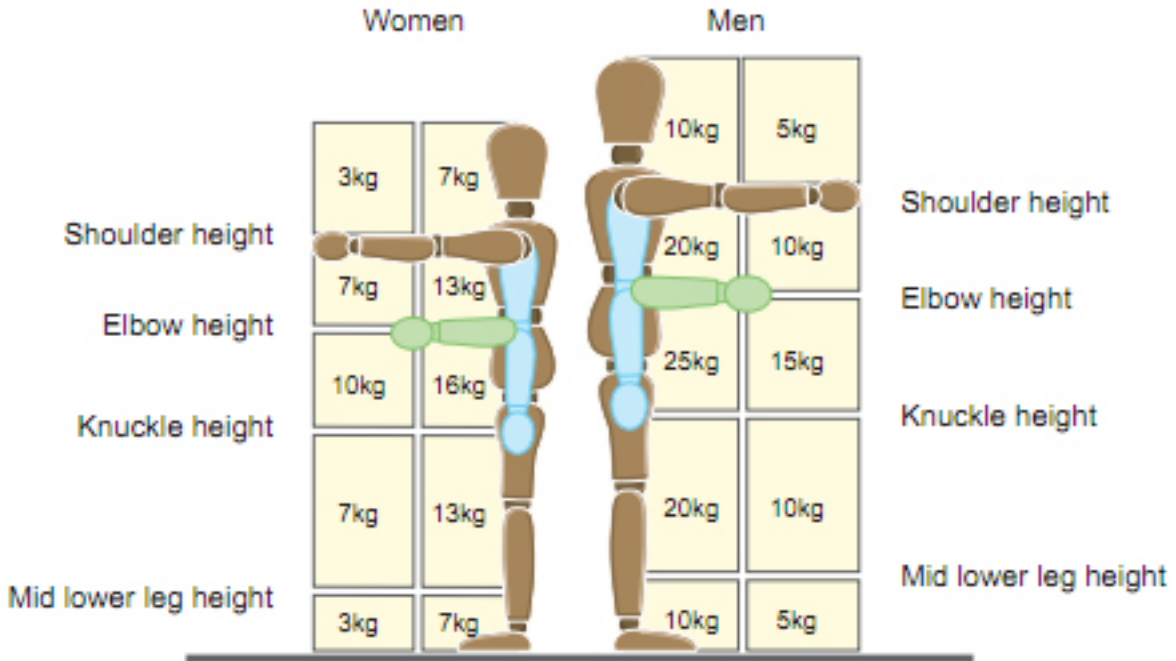


Do not twist or lean sideways during lift



Keep head up during lift

Take note of how the safe recommended load weights alter with position of body and arms in relation to the position of the load.



When lifting in a group the recommended safe load weight does not increase directly with the number of people lifting the load.

For group lifts the load and lift should be assessed with the group and if necessary, a separate risk assessment should be conducted.

1. Where the use of fixed or mobile elevated work platforms with guard rails and toe boards is impracticable, and there is a risk of falling, a safety harnesses must be provided and used.
2. Only operatives trained in the use of harnesses or under supervision of such person may use them.
3. Anyone using a harness must be accompanied by at least one other co-worker.
4. Prior to any working at height wearing a harness a rescue plan must be formulated, discussed and understood by all operatives working at height. This may be a mechanical means of reaching the falling operative, ie scissor lift, mewp, boom, crane etc. In situations where reaching a fallen operative by mechanical means is impracticable, enough man power must be available at the point of work to physically retrieve the fallen operative. Beware of any medical conditions that may affect the user in emergency use.
5. A harness must be selected from storage and checked against the product history card that the harness is within its formal inspection date. Any harness outside this date must be tagged as unsafe and must be removed from service.
6. Once a suitable harness is selected it must be physically inspected by the user following the inspection checklist provided with the harness.
7. The harness must be fitted by the user following the instructions on the fitting checklist provided with the harness.
8. A harness must never be used outside its limitations or for any purpose other than that it is intended for.
9. In any fall arrest system, the free space below the user should always be ensured.
10. Where possible, anchor points should be selected at or above shoulder height, adjusting the harness correctly.
11. During the use protect all equipment from sharp or rough edges, any chemicals, hot surfaces or exposure to hot gasses such as brazing torches and blow lamps etc.
12. After use the harness should be replaced in its protective bag and returned to stores carefully and promptly.

1. **What are the Hazards?**

Shift workers and night workers often are tired and sleepy because of their work schedule. Being overly tired makes it difficult to concentrate, which increases the possibility of errors or accidents. This can be a risk both to the worker and to the public. The stress of shift work also can aggravate health conditions, such as heart disease or digestive disorders.

2. **How do these hazards occur?**

Working at night makes it difficult to get enough sleep. Sleep after night work usually is shorter and less refreshing or satisfying than sleep during the normal night time hours. Brain and body functions slow down during the night time and early morning hours. The combination of sleep loss and working at the body's low-point can cause excessive fatigue and sleepiness. This makes it more difficult to perform well, which increases the risk of accidents. Also, shift work can be stressful because of frequent switching from a day to night schedule and because of separation from family and friends. These stresses can be harmful to health.

3. **How can these hazards be avoided?**

Many workers cannot avoid night or rotating shift work and extended hours, the very nature of our business regularly demands work is undertaken outside normal working hours and often through the night. Therefore, this SMS document suggests ways of coping with shift work & excessive hours. Organizational or group approaches include planning the work schedule, redistributing the workload, improving the work environment and contingency planning. Individual approaches include improved sleep strategies, exercise, and relaxation technique.

4. **What are extended hours and what are excessive hours?**

Extended hours are overtime worked over and above what was expected in the shift. Excessive hours are overtime that has led to the mental or physical fatiguing of a worker that has subsequently impaired their standard of work, work rate, judgement or commitment to their own safety and the safety of others affected by their actions.

The specific point at which *extended* becomes *excessive* is subjective to numerous factors including:

- An individual's rest period prior to the shift.
- An individual's age.
- An individual's general health and fitness.
- The nature of the work being undertaken.
- The working conditions the work is being undertaken in.
- Properly planned meal breaks and rest periods.
- An individual's planned rest period after the shift.

As such it is not practicable to put an exact figure on what is extended and what is excessive. This can only be truly determined by the individual and those working with them, however, the company will monitor timesheets both live via the new online time sheet system and weekly with any individual instances of excessive shift hours questioned and instances of over 60 hours worked in 1 week investigated with the employee and findings documented on that time sheet.

5. ***Planning the work.***

Plan in advance and refer to schedules and programmes to know when shifts are required that may demand working through the night or hitting milestone deadlines etc. Ensure workers are properly rested before a planned long shift that may be liable to delays. In some jobs, it might be possible to schedule heavy or demanding work at times when there are more workers available to help or workers are most alert or at peak performance.

6. ***Redistribute the work load.***

Where practicable split shifts so that 1 team of workers can start earlier with tasks that can be done prior to the main shift or shut down period. The additional workers can then start work later and work later avoiding long shifts.

7. ***Improve the working environment.***

Poor working conditions add to the strain of shift work. Try to ensure adequate lighting, clean air, proper heat and air conditioning, and reduced noise. Lack of any of these will add to the shift worker's burden. Workers also should have access to hot and nutritious meals during evening and night shifts. If a cafeteria is not available, plan ahead and ensure you have meals that may be cooked with an onsite microwave or bought from vending machines / nearby facilities.

8. ***Contingency planning.***

Occasionally, even with extensive planning, jobs can suffer unforeseen delays causing extended working hours. Occasional *extended* hours are acceptable, *excessive* hours are not. In such circumstances it is necessary to have in place a contingency plan to ensure the health and safety of workers and those affected by their actions. Tiredness and lack of sleep slows the progress of work, leads to substandard work and inevitably accidents.

At the start of all jobs workers will have undertaken the Torr Engineering Pre Start Safety Checklist. As part of this list you will have read the following:

“TORR ENGINEERING REGARDS THE SAFETY OF ITS EMPLOYEES AND THIRD PARTIES CONNECTED WITH THE ACTIONS OF TORR ENGINEERING STAFF WITH PARAMOUNT IMPORTANCE.
ALL STAFF HAVE A DUTY OF CARE TO THEMSELVES AND THOSE AROUND THEM.
AT NO TIME WHATSOEVER SHOULD ANY MEMBER OF STAFF UNDERTAKE ANY TASK THAT THEY DEEM TO BE UNSAFE TO THEMSELVES OR OTHERS AROUND THEM.
NO JOB IS TOO IMPORTANT TO COMPRISE YOUR OR OTHERS SAFETY.”

In any circumstance whatsoever where any workers are feeling heavily fatigued or overtired, mentally or physically, then work must stop immediately.

- As part of the initial planning procedure for suspected long shifts, directors should be informed of the potential of a shift over running so they can have in place plans to ensure the continuation of works.
- In the event of excessive hours / fatigue occurring, any worker must notify their immediate senior of the situation. Lead engineers should immediately notify a director.

- Site managers must be made aware of the situation and the steps being taken to ensure continuation of works.
- Where possible lead engineers will themselves arrange for a backup team to continue works. Where this not possible a director will arrange for a replacement team.
- Fatigued workers will immediately take the necessary rest period. This should be taken locally at either home or if working away at a hotel, and in either case not be subject to a long drive before arrival. If necessary rest in the vehicle prior to driving.
- Where overnight stays are identified as necessary prior to a project starting, suitable accommodation will be booked by a director for all employees involved in that project. In the case of any unforeseen overnight accommodation being required all lead engineers are issued with their own Premier Inn business card to facilitate booking and payment for hotel overnight stays. Should any situation arise where an engineer is unable to use their business card for necessary accommodation payment, they may call a director who will pay for it over the phone or may pay for it themselves and all costs incurred will be reimbursed in full as expenses on that weeks' wages.

9. ***Individual sleep strategy.***

Take responsibility for getting enough sleep to feel rested and restored. For some people this happens without doing anything special. However, most shift workers need to become more aware of what to do to get satisfying sleep and when to do it.

When to Sleep after Night Shift: This depends on the individual. Try different times and see what works best for you. As you experiment with different sleep times. Some workers like to sleep in one longer period, but many workers need two shorter sleep periods to get enough sleep after the nightshift. It is a good idea to go to bed as early as possible after the nightshift in order to maximize sleep. A second sleep also could be taken in the afternoon to get ready for night shift. Try taking advantage of the natural tendency to be sleepy in mid-afternoon. You might get your most satisfying sleep at that time. Just resting without sleep is not enough. The brain has to have sleep, or you will be sleepy later in the day or during night shift. However, rest without sleep still is valuable for body and muscle recovery. Schedule at least seven hours in bed, even if you don't sleep the whole time.

What is the Minimum Amount of Sleep? The vast majority of workers need at least six hours of sleep but most need more than this. Most people do not feel refreshed and at their best with just six hours. Staying with your own preferred amount of sleep is best in the long run. You might find that you need less as you become more experienced with shift work.

Switching Back to Days: When switching back to days after the night shift, it is best to get most of your sleep the following night. Sleep just a couple of hours shortly after night shift to shake off sleepiness. Then stay awake all day and go to sleep at your regular bedtime at night.

10. ***Individual exercise.***

In general, keeping physically fit helps resist stress and illness. Regular exercise also keeps a person from becoming tired too quickly. A big question for the shift worker is when to exercise. The timing of exercise is important, so that it does not make a person too tired to work. Exercise also

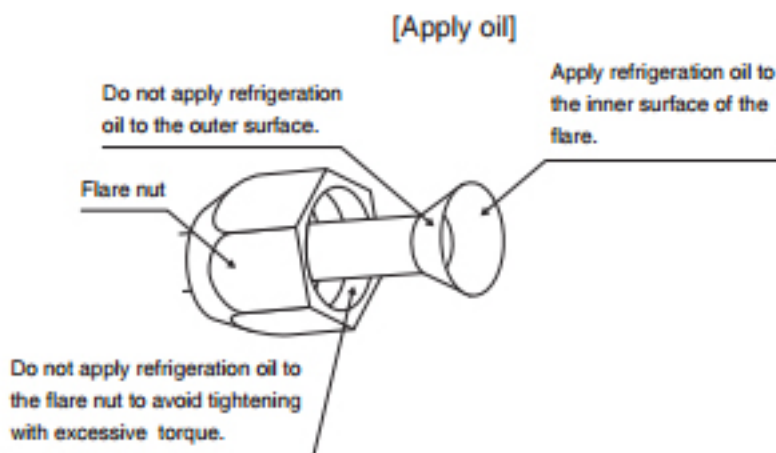
should not interfere with sleep. If a worker does physical labour, too much exercise before work might make work too tiring. Twenty minutes of aerobic exercise before work (for example, a brisk walk, bike ride, jog, or swim) is enough to help any worker wake up and get going and also keep the heart in shape. Try to avoid exercise in the three hours before sleep. Exercise tends to activate the body or wake it up. This might make it difficult to fall asleep. The timing of exercise also might help a person rotate from one shift to another. Since brisk exercising activates the body to produce energy, it also might help the body rhythm shift to the new work time. Try exercise before going on shift. Early morning exercise is good for day shift, afternoon exercise is good for evening shift, and early evening exercise is good for night shift. Don't overdo it or you will be too exhausted to work.

11. ***Individual relaxation.***

Being able to wind down and take it easy is just as important as being able to wake up and get going. Give yourself time to relax and get rid of work-time stresses. This will make home life and sleep easier. Find out what is best for you personally to help you relax best. It could be just sitting down and closing your eyes for a while. Or it could be reading, taking a bath, or watching TV.

The following simple exercise may help you start your quiet relaxation time. Try lying down on the carpet or bed, or sitting in an easy chair. One by one, slowly tense each muscle group in your body, then slowly let them relax. Do this for your arms, legs, stomach, neck, and face muscles. Breathe deeply during this exercise and go slowly. Try to feel all the muscle tension draining away from your body. This is a simple way to let go of all the stresses of the day and to slow down.

1. All flares must be created with an eccentric flaring kit with built in torque release type clutch and not the older rigid compression / Imperial type flaring kit.
2. The pipe that is being flared must be cut at 90° with clean, sharp pipe cutters. Allow enough straight length of pipe to allow the pipe to be re-flared in the future if necessary.
3. Remove burrs with the cut surface facing downward so that the chips do not enter the pipe.
4. Always use the flare nuts that come with the system.
5. Be aware that the system may come with a nitrogen pressure charge.
6. Use 2 spanners, 1 on the valve body and the other on the flare nut. Carefully part release the flare nut to allow any nitrogen charge to release before removing the flare nut fully.
7. Place the flare nut on the pipe with the threads facing the end of the pipe.
8. Place the end of the pipe in the flaring block with approximately 0.5mm protruding from the face of the flare block.
9. Ensure the flaring tool is fully wound up (Anti clockwise). Slide the eccentric flaring tool on to the block ensuring it is correctly seated and directly over the pipe centre. Fully tighten the flaring tool to the block.
10. Flare the pipe by turning the tool handle clockwise until the torque clutch clicks once, pause and continue to turn until it clicks a second time to burnish the flare.
11. Unwind the flaring tool and release the pipe from the block. Visually inspect the flare, ensure the flare nut slides unimpeded over the flare and run your finger over the flare face to ensure it is smooth and swarf free.
12. With your finger tip, smear a small amount of synthetic refrigerant oil to the inner face of the flare only. Do not get oil on any other part of the flare or nut & do not use mineral oil. See image below:



13. Refer to manufacturer's installation documentation to find correct flare nut tightening torque settings.
14. Tighten the flare to the system using calibrated torque spanners to the recommended torque.

1. A confined space is a place which is substantially enclosed (though not always entirely), and where serious injury can occur from hazardous substances or conditions within the space or nearby (e.g. fire, explosion, loss of consciousness, asphyxiation or drowning. Some places may only become confined spaces when work is carried out, or during their construction, fabrication or subsequent modification.
2. Wherever possible, you should avoid carrying out tasks in confined spaces. This could include modifying the confined space itself so entry is not necessary or doing the work from outside the space. Where this is not possible, you must assess the risks of the particular confined space and plan how you will control those risks.
3. All persons doing the work must be capable and trained in both the work and the use of any emergency equipment.
4. Before entering a confined space it must be proven by calibrated test equipment to contain enough oxygen to breathe properly. No employee of Torr Engineering is permitted to enter a confined space where breathing apparatus is required.
5. Before entering a confined space it must be ventilated to its maximum possible capacity.
6. If there is a risk of liquids or gasses flooding in, it must be established prior to entry whether valves can be isolated and locked off.
7. Provision must be made for continuous monitoring of the atmosphere within the confined space prior to entry.
8. Prior to entry, planning and provision must be made for the safe evacuation of everyone who may be inside the confined space, including the provision to extricate persons who may be unconscious. Access and egress points must allow evacuation of persons wearing any specific equipment / PPE etc.
9. If rescue harnesses are being used, lifelines attached to the harness should run back to an accessible point outside the confined space.
10. Confirmation must be sought that the confined space is clean of any residues and flammable materials
11. A person needs to be positioned outside the confined space to keep watch and to communicate with anyone inside, raise the alarm quickly in an emergency, and take charge of the rescue procedures.
12. A contingency plan should be in place in the event of an emergency, to summons extra help and where necessary contact the emergency services.
13. A Supervisor should be nominated and given responsibility to make sure that all the necessary precautions above are taken and documented, to check safety at each stage, and they may need to remain present while work is underway.
14. A system of accounting for all persons entering and exiting the confined space must be in place.

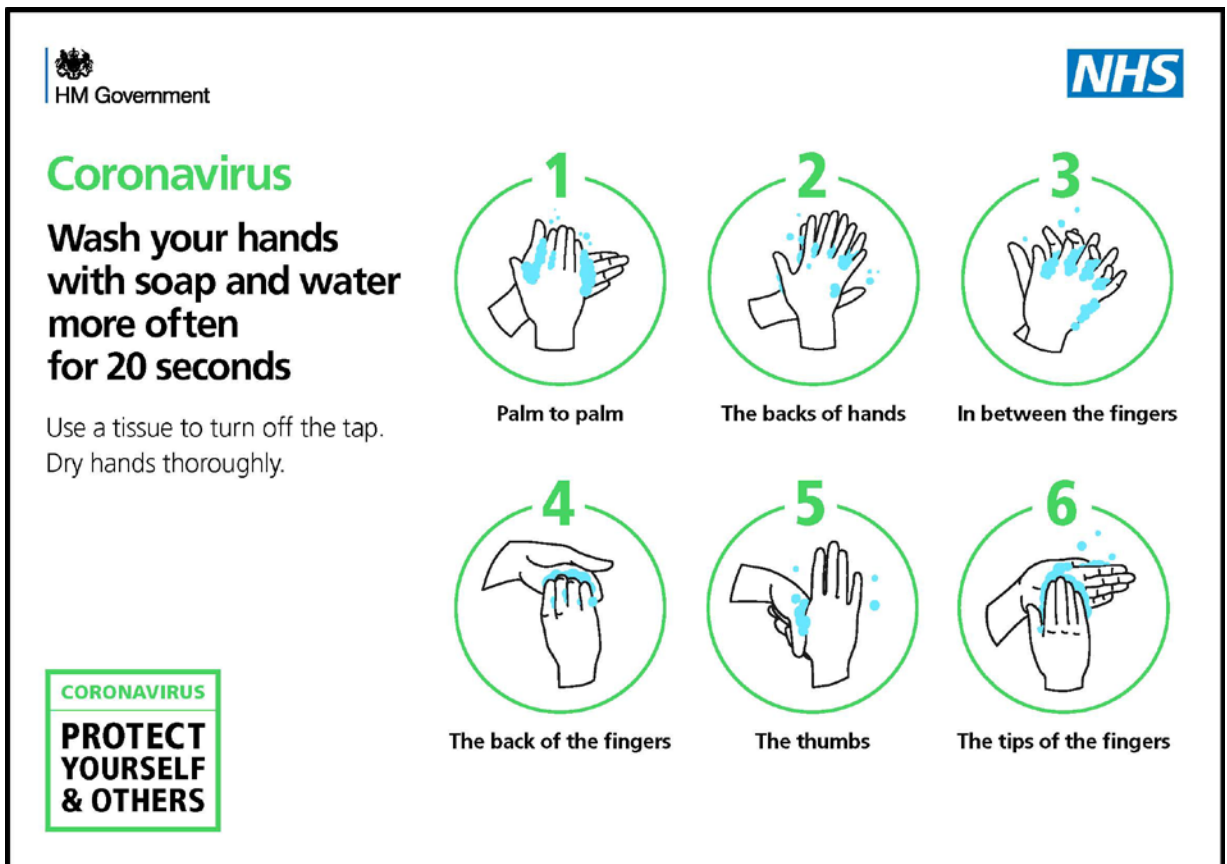
1. The consumption of alcohol and use of drugs can adversely affect the performance of individuals and consequently have an impact on safety and health, which may increase risk to individuals or others. It is therefore the responsibility of all employees to:
 - Comply with The Misuse of Drugs Act 1971 and the Transport and Works Act 1992.
 - Not knowingly report for work under the influence of alcohol or drugs, nor to consume them whilst at work, or permit any other employee or individual acting on behalf of the Company to do so.
 - Report any person known to be, or strongly suspected of being, affected by alcohol or drugs to a company director or site supervisor where it is considered that other persons may be at risk such as driving vehicles or operating tools and machinery.
2. As representatives of Torr Engineering, all staff have a responsibility to maintain a high level of professionalism at all times – particularly when working directly with external customers or clients. Working whilst under the influence of drugs or alcohol can have a significant negative impact on the reputation of the company.
3. It must be noted that symptoms suggesting that a person is under the influence of alcohol or drugs may be created by other conditions, e.g. heat exhaustion, hypothermia, diabetes, etc. The individual concerned may also be affected by legitimate medication prescribed by a doctor. These conditions may still require the person to be removed from the work location for safety reasons and if there is any doubt as to the individual's condition or cause of their condition, medical advice shall be sought immediately.
4. The unauthorised consumption or introduction of alcohol, or the introduction or taking of illegal substances whilst working on behalf of Torr Engineering Ltd is strictly prohibited and will be treated as gross misconduct for which those concerned may be instantly dismissed from employment, without a statutory notice period, as per their contract of employment. All employees will be treated consistently and fairly in line with this policy
5. Drug and alcohol testing may be carried out by an independent specialist where necessary and may also form part of the terms and conditions of contracts with Clients, which may also be carried out on a random basis. Employees shall be informed where this situation applies.
6. As representatives of Torr Engineering, all staff have a responsibility to maintain a high level of professionalism at all times – particularly when working directly with external customers or clients. Working whilst under the influence of drugs or alcohol can have a significant negative impact on the reputation of the company.
7. Issues with drugs or alcohol not only pose a risk in the workplace, but can also impact heavily on an individual's personal health and wellbeing. Directors actively encourage all staff members to disclose any concerns to having a problem with alcohol or drugs. In which case they will be fully supported by the directors and a suitable course of action and help will be developed.
8. All matters concerning alcohol and drugs shall be treated as confidential.

1. This policy is aimed at reducing the spread of the currently circulating novel coronavirus, which causes COVID-19 infection. This coronavirus is a novel agent whereby there is no immunity in the world’s population to the infection. The two main methods of preventing the spread of infection are hygiene measures and social distancing.
2. Recognising the symptoms of Coronavirus:

Symptoms	Coronavirus (COVID-19) Symptoms range from mild to severe	Influenza (FLU) Abrupt onset of symptoms	Cold Gradual onset of symptoms	Seasonal Allergies Symptoms improve or worsen depending on environment
Fever	Often	Often	Rare	Sometimes
Fatigue	Sometimes	Sometimes	Sometimes	Often
Cough	Often (usually dry)	Often (usually dry)	Mild	Often
Sneezing	No	No	Often	Often
Aches & Pains	Sometimes	Often	Often	No
Runny or Stuffy Nose	Rare	Sometimes	Often	Often
Sore throat	Sometimes	Sometimes	Often	No
Diarrhea	Rare	Sometimes in Children	No	No
Headaches	Sometimes	Often	Rare	Sometimes
Shortness of breath/ Difficulty breathing	Often	Rare	Rare	Rare
Loss of taste and smell	Often	Rare	Rare	Rare

3. If you or any member of your immediate family / bubble identify with any of the symptoms of Covid-19 or Influenza above, you must not come to work and should first contact NHS 111 for further advice, then a director for further instruction.
4. If you have been instructed by a member of a medical profession, or by any other official means (Track & Trace apps etc.), you must not come to work and should first contact NHS 111 for further advice, then contact a director for further instruction.
5. If you are self-declared fit for work, your temperature will be taken and recorded prior to any works being undertaken. Your temperature will be taken by non-contact infra-red thermometer and must be BELOW 37.8°C. If your temperature is 37.8°C or above, you will not be allowed to continue work that day and should return home, calling NHS 111 for further advice.

- 6. Where practicable, engineers should wear a face mask and maintain a social distance of 2 metres from any other persons.
- 7. Where this is not possible, such work should be minimized as much as possible, a face mask must be worn and a distance of at least 1 metre from any other persons should be maintained.
- 8. All engineers have been issued with alcohol-based hand sanitizer. Hands should be washed regularly throughout the day and always before & after eating, using toilet facilities or other such hygiene critical activities.
- 9. Hand washing should be thorough, take no less than 20 seconds and follow the directions below:



- 10. In addition to these guidelines, all engineers should be conversant with and adhere to the latest government advice. This can be found at: www.gov.uk/coronavirus.
- 11. Engineers must also be aware of and adhere to any client / site specific rules. These will be communicated to you prior to arriving at site or during any site inductions.

1. The purpose of the Control of Vibration at Work Regulations is to make sure that people do not suffer damage to their health from hand-arm vibration. Controlling the risks from exposure to hand-arm vibration should be where you concentrate your efforts.
2. Hand Arm Vibration Syndrome (HAVS) can be identified by:
 - (a) tingling in the fingers.
 - (b) numbness in the hands or arms.
 - (c) loss of grip strength.
 - (d) white fingers.
3. Wherever possible, look for alternative work methods which eliminate the need to use vibrating equipment entirely.
4. Where this is not possible or practicable, engineers trained in the correct use of the vibration creating tool must take the steps below to reduce exposure to vibration to an absolute minimum.
5. HAND ARM VIBRATION LIMITS – Where A(8) is your average exposure over an 8 hour day:
 - (a) the daily exposure limit value is 5 m/s² A(8).
 - (b) the daily exposure action value is 2.5 m/s² A(8).
6. WHOLE BODY VIBRATION LIMITS – Where A8 is your average exposure over an 8 hour day:
 - (a) the daily exposure limit value is 1.15 m/s² A(8).
 - (b) the daily exposure action value is 0.5 m/s² A(8).
7. It is important to know the amount of vibration caused by the process you are undertaking. Equipment commonly used by Torr engineers have the following vibration ratings & limits:

TOOL	MODEL	VIBRATION	EXPOSURE ACTION	EXPOSURE LIMIT
MAKITA 110V HAMMER DRILL	HR2811FT	15.6 m/s ²	12 MINUTES	49 MINUTES
MAKITA 18V IMPACT DRIVER	DTD154	12.5 m/s ²	19 MINS	1 HOUR 16 MINS
MAKITA 18V HAMMER DRILL	DHP481	6.5 m/s ²	1 HOUR 10 MINS	4 HOURS 43 MINS
MAKITA JIGSAW	DJV182	3.5 m/s ²	4 HOURS 4 MINS	16 HOURS 18 MINS
MAKITA CIRCULAR SAW	DCS551	2.5 m/s ²	7 HOURS 39 MINS	24 HOURS+
MAKITA MULTITOOL	DTM52	2.5 m/s ²	7 HOURS 39 MINS	24 HOURS+

8. Vibration exposure is cumulative and applies to all the tools you use in an 8-hour working day. Exposure limits must not be exceeded by any engineer in any 8-hour working period. Engineers nearing exposure limits for a period of 5 consecutive days should continue to self-monitor for any symptoms of HAVS for a further week, informing a director of any concerns. Ongoing monitoring over longer periods will be recorded in the annual staff information form & health questionnaire, with any concerns referred to a medical professional for further investigation.
9. Where use of a vibration creating tool is unavoidable, actions can be taken to minimise exposure to vibration which include:
 - (a) sharing the task between multiple engineers.
 - (b) spreading the task over multiple days.
 - (c) using padded anti-vibration gloves.
 - (d) using mechanical means to help separate the user from the tool – stands / suspension etc.
 - (e) use rotary action instead of hammer action.
10. If at any time you experience any abnormal sensations in your hands or arms while using vibrating equipment, stop use immediately and notify a director.

1. The HSE Suggested numbers of first-aid personnel to be available at all times people are at work for a higher risk work activities by companies of fewer than 5 employees is at least 1 appointed person. At Torr we have 1 trained first-aider and an additional appointed person. This provision will be reviewed in line with government guidelines or company expansion.
2. Torr Engineering's appointed and trained First Aider is Company Director - Garry Ornsby.
t: 07854 903026 – e: garry@torr-engineeirng.com
3. In the absence of the appointed first aider, Scott Newton (or the project senior engineer) will be appointed to take charge of any situation relating to an injured or ill employee who will need help from a medical practitioner or nurse.
4. All staff must complete a Staff Information Form, updated annually or more often as necessary, which includes medical information. Any current, ongoing, or potential medical needs should be highlighted on this form where additional first aid provision will be reviewed.
5. Basic first aid supplies are provided to all engineers and are stored, in the company vehicles, in containers appropriate containers protected from dust and damp. Further first aid boxes are available at the company head office. These first aid kits include but are not limited to:
 - (a) gloves
 - (b) sterile wipes
 - (c) plasters
 - (d) bandages
 - (e) adhesive tape
 - (f) eye wash
 - (g) burn spray
6. The contents of the first aid kits will be inspected as part of a job pre-start checklist, after any use of the kits and annually as part of the company review procedures.
7. Any use of first aid supplies should be notified to a director so provision can be made for re-stocking first aid kits promptly.
8. In the event of first aid needing to be administered, an AIMS form should be completed to identify any procedural failings and the incident should be recorded in the accident book.
9. Engineers must be fully conversant with site first aid provision and procedures. These will be discussed and communicated during a pre-start meeting or by a site's specific induction meeting.
10. Lone working engineers must have arrangements in place to contact the necessary personnel in the event of an accident. This may be by phone or radio.
11. Appointed first aiders should be aware of the nearest accident and emergency department. This is especially important when working away from home.
12. Knowing the location of the nearest defibrillator is also advised.

1. Lone working is always to be avoided wherever possible.
2. Where it is not possible or practicable to avoid, lone workers must notify a director of their intended location, work activity, and estimated duration.
3. Lone workers must be fully competent and trained in the task they are undertaking alone.
4. Lone workers must always have a known line of communication available to them. This may include a mobile phone with signal, a telephone land line they are available to use, or a radio constantly monitored by at least one other person.
5. High risk activities such as hot works, brazing, or live electrical works – that would normally require a brother's keeper or firewatcher, should be avoided by lone workers. Where this is not possible, a point of work risk assessment must be done and recorded, and provisions must be made for another person, contractor, or trade to be in vicinity within communicable range.
6. Under no circumstances are lone workers allowed to enter confined spaces or areas with significantly compromised access and egress.
7. There should be no circumstances where an engineer is required to work and stay away from home overnight alone. Exceptions to this may occur where an engineer is working as top-up labour for another Torr approved contractor, and will be working and staying with other known contractor staff.