

SITE SPECIFIC TRAINING

Personal Protective Equipment Inspection
Artificial Climbing Structure Equipment Checks
June 2016 Version











PARTICIPATION STATEMENT

The BMC Participation Statement says that: The BMC recognises that climbing and mountaineering are activities with a danger of personal injury or death. Participants in these activities should be aware of and accept these risks and be responsible for their own actions.

This document, and the training which accompanies it, do not provide for all aspects of equipment inspection or maintenance. The wall management who has contracted the training is entirely responsible for ensuring that all of the aspects concerning operating a climbing wall are complied with and kept to a standard acceptable to the relevant National Governing Bodies and any other applicable guidelines and or regulations.

Upon successful completion of this training, and the following assessment, the participant will have been deemed competent with regard to the skills and techniques covered under the syllabus. This training and the respective trainer cannot ensure that safe practices are adhered to on a daily basis, this is the responsibility of the individual trainee and the Management of the respective climbing wall. Additionally, this training does not assess the individual with regard to their personal attributes or their suitability as an inspector, other than that they have shown competence on the day of assessment. The climbing wall management is wholly responsible for insuring candidates are suitable for their position.

Each candidate will be issued a copy of this syllabus to act as reference and a logbook for recording historical and continued experience. It is the duty of the individuals to keep this record current. It is the responsibility of the facility management to monitor that this is being completed.

By taking part in this training programme, the participants and the management of the facility agree to accept full responsibility for their own actions and all liability associated with operating a climbing wall. It must be understood that climbing has risks inherent to the activity, which may include injury or death. If the participants have any medical condition or otherwise are not able to climb or work at height they agree to identify this and remove themselves from the training.

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Participant Detail	s						
Name:							
Name and Address of Climbing Wall:							
Training / Assessn	nent Date:						
Trainer / Assessor	Trainer / Assessor:						
	Pass	Deferred	Fail				
Assessor Commer	Assessor Comments / Limitation:						

Site Specific Recertification (Maximum 3 Year Validity)

Date	Outcome	Assessor	Comments











Introduction

This training course is intended to teach each participant to confidently perform routine inspections of the PPE and associated climbing wall equipment at the named facility. The training includes the ability to complete basic equipment checks of the in-situ equipment on the climbing structure, this includes climbing and roped techniques (belaying and climbing).

The course content follows current manufacture recommendations, best practice and statutory legislation in accordance with LOLER, PUWER, HSAW Act, AALS guidance and PPE legislation at the time of writing.

Throughout the work book the indicates additional information is required for input by the candidate. This is designed to engage the candidates during training and make the work book their own through the addition of notes and annotations.

Remit

Upon successful completion of the training course and the following assessment the candidates will be deemed competent to inspect PPE and wall equipment at the names facility in the described procedure. Candidates working outside the specific remit of this training programme as stated in this document are NOT endorsed. It is strongly recommended that if there are any questions about the remit of the training or any of the described practices, the provider be contacted before any work is initiated.

NOTE: The access techniques covered are as per normal climbing / belaying and do NOT cover industrial rope access techniques — only competent climbers and belayers may participate in this course as the teaching of these fundamentals are not covered. If any participant does not have the competence to climbing and belay safely they MUST remove themselves from the course or choose to complete ground based aspects ONLY (e.g. no climbing or belaying). The process of changing hardware / auto-belays on the wall is NOT covered in this course, only operational checks where the staff member is NOT required to attachment selves to the climbing structure via a non-belayed system (e.g. normal climbing techniques only).

Validity

If a candidate successfully completes the course assessment they will be issued with a certificate of completion (SOC) – this is valid for a maximum of 3 years from the completion date. If staff are not actively using their skills they may require refresher training, it is the duty of the staff members themselves and respective management to seek advice should there be any question about techniques or skills.











Training outline

- Theoretical session
 - Fundamentals of Health and Safety
 - Applicable regulations
 - o LOLER / PUWER / WAH / PPE
 - PPE and Climbing Equipment overview
 - o Manufacturing techniques of hardware and textiles
 - Strengths and limitations
 - o Care and maintenance
 - Lifespan
 - Equipment inspection
 - o Manufacturers guidance for each item
 - Equipment marking / recording
 - o Equipment storage, maintenance and use
 - PPE and Wall inspection policy
 - Auto-belay information (manufacturers guidance)
 - Access for wall checks (front of wall only normal climbing techniques as per MT rock climbing manual – never attached to the wall other than as belayed)
- Practical complete interim equipment inspection
 - Wall Checks
 - Auto-belay checks
 - o PPE quarterly inspection
- Lunch / break
- Practical Examination
 - o Individual assessment of PPE and the recording of the inspection.
 - Climbing techniques for access (as per trainer decision if required)

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Fundamentals of Health and Safety

Health and Safety at Work etc Act 1974

Management of Health and Safety at Work regulations 1999

LOLER 1998	PUWER 1998
PPE (2002) as amended	WAH (2007) as amended

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What does LOLER do?

Generally, the Regulations require that lifting equipment provided for use at work is:

- Strong and stable enough for the particular use and marked to indicate safe working loads;
- Positioned and installed to minimise any risks;
- Used safely, ie the work is planned, organised and performed by competent; and
- Subject to ongoing thorough examination and, where appropriate, inspection by competent people.

In addition to using the correct equipment and being competent to do so, the regulations dictate that;

All equipment will be part of an inspection regime. This regime will include:

- a. Each piece of equipment be identifiable
- b. The purchase and first use be recorded
- c. A pre-use inspection
- d. A minimum of monthly recorded inspection
- e. Records be kept for the life of the equipment
- f. The inspection regime be approved and enacted by a competent person

Review LOLER Document: Simple Guide to the Lifting Operations and Lifting Equipment Regulations 1998

What does PUWER do?

In general terms, the Regulations require that equipment provided for use at work is:

- Suitable for the intended use;
- Safe for use, maintained in a safe condition and, in certain circumstances,
- Inspected to ensure this remains the case;
- Used only by people who have received adequate information, instruction and; and accompanied by suitable safety measures, eg protective devices, markings, warnings.

Review PUWER Document: Simple guide to the Provision and Use of Work Equipment Regulations 1998











What does PPE do?

PPE is equipment that will protect the user against health or safety risks at work. It can include items such as safety helmets and hard hats, gloves, eye protection, high-visibility clothing, safety footwear and safety harnesses.

What do the Regulations require?

PPE should be used as a last resort. Wherever there are risks to health and safety that cannot be adequately controlled in other ways, the Personal Protective Equipment at Work Regulations 1992 require PPE to be supplied.

Review PPE Document: Personal protective equipment (PPE) at work

Hierarchy of Controls



Personal protective equipment is considered a last resort within the hierarchy of controls and should therefore only used when all other options have been explored. It is considered the least effective measure of controlling exposure to a hazard.

The Regulations also require that PPE is:

- properly assessed before use to make sure it is fit for purpose;
- maintained and stored properly;
- provided withon how to use it safely;
- used correctly by employees.

Ensure any PPE you buy is 'CE' marked and complies with the requirements of the Personal Protective Equipment Regulations 2002. The CE marking signifies that the PPE satisfies certain basic safety requirements and in some cases will have been tested and certified by an independent body.

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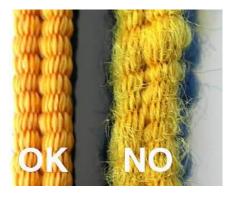
Equipment Maintenance / Inspection Procedures

There are many acceptable types of equipment designed for the same use, check with the manufacturer if you are in doubt as to whether or not you are using / inspecting / maintaining it properly, you may need additional training for some devices and equipment, seek this from a suitability qualified individual.

Ropes:

All ropes have a lifespan recommended by the manufacture depending on use and condition; however as with all textiles (ropes, slings, harnesses) they normally have a maximum shelf lifespan of 10 years and a maximum in-use lifespan of 5 years. Ropes must be stored and looked after carefully to ensure they are safe to use, care information will normally be provided with the equipment when purchased.

The ropes (as all equipment) must be inspected prior to use. You will inspect the rope for any: abnormalities or fuzzy areas, strong deformities (stiffness, nicks and sponginess), damage to the sheath or if the core is showing, any evidence of contact with a chemical agent (oil, grease, acid) and any damage from heat, abrasion or friction. If any of the above is found or suspected the equipment must be isolated and brought to the attention of your supervisor in accordance with the management's operating procedures. You are personally liable if you knowingly use damaged equipment.



Harnesses:

As with ropes the lifespan of the harness will depend on the type, manufacturer and usage. The inspection of harnesses will look at all weight bearing areas for wear or damage to the strands of the webbing. The buckles will be examined for signs of cracking or burring and all stitching will be inspected to ensure that it is complete.













Slings:

There are many types of climbing slings. As with any textiles, care should be taken if the sling is exposed to prolonged sunlight or has had possible contact with chemicals. When inspecting a sling you will look for any damage to the fibres of the sling (sometimes indicated by a furry appearance) and any abnormalities or damage to the stitching (as pictured below). Refer to manufacturers guidelines for specific instructions and care guidelines. If any discoloration of any textile is noticed it should not be used and passed to the person in charge of PPE checking for a thorough inspection.

-Note: some slings are made from Dyneema and although very strong and light can melt at relatively low temperatures (144 - 152 degrees Celsius), be aware to keep them from rubbing as catastrophic failure could result.















Helmets:

There are many types available but most fall into three categories, plastic hard shells, foam or hybrids. Plastic helmets should be inspected for cracks or deep scratches but are normally more resilient and can be used after minor impacts. Styrofoam helmets are not as resilient and must be retired after an impact even if minor. They are to be inspected for cracks, scratches and/or dents to the exterior. For care and maintenance refer to the manufacturers guidelines.



Karabiners:

As with all metalwork, karabiners normally have a conditional dependent lifespan; this means that they can be used indefinitely so long as they are not damaged and function properly.

When inspecting karabiners you will check:

- That the gate moves properly and does not stick
- The locking barrel winds and unwinds (if screw-gate)
- That there is no grooving present
- That there are no nicks burrs or sharp area on the karabiner
- That there is no corrosion present



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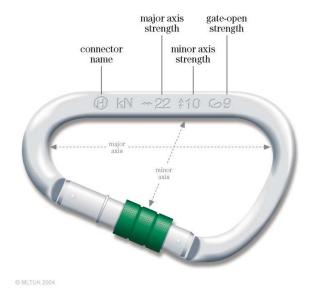






Heavily Grooved Karabiner

All Karabiners are marked for strength and have information as noted below:



TruBlue:

Weekly, Monthly and six monthly inspections as per manufacturer's operator's manual.

Wall Checks:

All wall checks to be complete by competent belayers / climbers using rated climbing PPE and an assisted braking device. Helmets to be worn. The climber is NEVER to attach to the wall so that they may not be lowered (rescue plan).

- Y Hangs as per karabiner inspection with addition of chain and hanger
- Quick-draw as per karabiner / textile inspection with hanger wear / orientation / security and maillon wear (grooving on hanger side and tightness of barrel)
- Holds security sample selection tighten as per bolt on hold instructions

NOTE: An example of inspection techniques will be demonstrated using the manufacturers information as listed in the appendices.











PPE Policy

Equipment Storage, Maintenance and Use

All PPE should be stored securely in a suitable equipment storage area. It shall be kept away from direct sunlight, at room temperature, secure, dry and in a clean, orderly environment. Equipment is dried if wet before it is stored and only cleaned according to the manufacturers advice.

When the equipment is in use on sessions the supervising instructor has responsibility to ensure that the equipment does not come into any contact with heat sources or chemicals, kept secure, used correctly and continually checked for damage.

1.0 Equipment Marking

All PPE has an individual unique marking that is logged in the PPE inspection record. This marking is a manufacturer generated ID or a company specific ID as appropriate / possible.

- Ropes will be marked with; length, diameter, type and the unique ID.
- Metal hardware may use light engraving for marking (in manufacturer approved location) or marking tape as appropriate
- Adhesives and solvents will not be used on textiles unless approved by the relevant manufacture. This includes tape and marking pens.
- Any equipment that has no ID should be considered to have not passed a PPE check and therefore not used.

2.0 Equipment Inspection

2.1 Pre-Use / Continued Checks

All PPE is subjected to a 'pre-use' check before each use. This will be completed by someone who has received appropriate training in the inspection of PPE equipment, either as part of their NGB qualification, Site Specific Training or specific training.

2.2 PPE that fails any check should not be used, labelled with the fault, date, supervisor name and placed in quarantine (e.g. a secure damaged PPE box) for further inspection by the centre manager. If appropriate, an investigation as to the cause of the damage will be conducted by the centre manager and actions taken as appropriate.

2.3 Through Inspections

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The facility management ensure that there is sufficient time for a thorough check of all equipment to take place at the required intervals. All checks are done according to the manufacturers specifications with direct reference to the guidance provided in the relevant technical data for each item. Where no technical data is available (for example for haul bags) the equipment is systematically inspected using a competent person's knowledge of the inspection of textiles, plastics and metalwork. If appropriate, an investigation as to the cause of damage will be conducted and action taken as required.

3 Faulty Equipment:

If equipment has FAILED an inspection (this may be during a scheduled through inspection, part of a response to a failed pre-use check or at any point during use) it will be, quarantined from use, labelled as defective and rendered un-usable and destroyed accordingly. The Centre Manager has the authority to deem equipment failed and immediately destroy the item. If appropriate, an investigation as to the cause of damage will be conducted and action taken as required.

4 Recording

Once a thorough inspection has taken place the inspector will complete the spreadsheet record. PASS, MONITOR or FAIL and a comment (for MONITOR or FAIL) will be recorded. MONITOR with an associated comment is highlighted to ensure that the area of concern is considered again and monitored correctly upon the equipment's next check. Often there are comments attached to boxes which give notes about kit which should also be considered upon the next inspection. All records are kept for a minimum of the lifespan of the equipment, however it may be that the records are kept for a time frame recommended by the insurers.

5 Lifetime of Equipment

5.1 Total PPE Lifespan (Shelf Life)

All PPE lifetime will be limited to the manufacturer recommended maximum shelf life. Guidance will be followed as per the technical data supplied with each item. If no (or conflicting) guidance is found the following lifetime will be followed – NOTE: Lifetime means the











span from date of manufacturing to the maximum usage date – this is not the usage lifetime, PPE may need to be retired after a single use in extreme circumstances.

- Metalwork (belay devices, karabiners) conditional lifespan
- Textiles (ropes, slings, harnesses) 10 years
- Helmets 10 years
- 5.2 In-use lifespan:

The in-use lifespan for all PPE will be followed as per the manufacturer's supplied technical data. If no (or conflicting) guidance is found the following lifetime will be followed –.

- Metalwork (belay devices, karabiners) conditional lifespan
- Textiles (ropes, slings, harnesses) 5 years
- Helmets 10 years

6	Inspection	Schedule: Daily
		Weekly
		Monthly
		Quarterly
		Six Monthly
		Annually

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Bibliography / Appendices:

BMC Care & Maintenance equipment standards – equipment wear and failure – routine checks and care (2001) The British Mountaineering Council

Personal protective equipment (PPE) at work a brief guide. Leaflet INDG174 (2013) HSE Books

Simple guide to the Provision and Use of Work Equipment
Regulations 1998. Leaflet INDG291 (1999) HSE Books
Simple guide to the Lifting Operations and Lifting Equipment
Regulations 1998. Leaflet INDG290 (1999) HSE Books
Personal protective equipment (PPE) at work A brief guide
Petzl Inspection Procedure Ropes
Petzl Inspection Procedure Pulleys
Petzl Inspection Procedure Connectors

Petzl Inspection Procedure Sport Harness

Petzl Inspection Procedure Helmets

TRUBLUE-Operators-Manual

Instruction guide Bolt-on holds - Entre-Prises











Assessment

To demonstrate competence in climbing wall PPE inspection candidates will perform an equipment inspection on a batch of equipment, within the allotted time. Candidates will make notes on each piece of equipment making a decision whether it is:

Good to continue in service
An element needs to be Monitored
Requires a Repair to keep it in service
Retired and for what reason or reasons.

There will be an opportunity for discussion and feedback after the assessment however during the assessment please keep your notes to yourself. The trainer will be on hand to answer simple questions during the assessment, however they will not give you the answer.

Exam ID						
Date						
Manufactur	e		Model			
Size			Colour			
Centre ID			Unique ID	Unique ID		
Condition (t	ick)					
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Next inspection due	
Signed	

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