

## Working at Height

Working at height is inherently dangerous. Around 40 people die and 6,000 – 7,000 people are injured each year from falls. Choosing the correct equipment will only make you safer, but not safe. The first thing to consider is whether it is necessary to work at height at all. If it is essential, then the next line of defence is to prevent the possibility of a fall by the use of handrails and work positioning harnesses and lanyards. Should a fall still be possible then fall arrest harnesses and lanyards should be worn. The overhead worker should be trained in the use of this equipment. IRATA is a highly respected training authority and they can provide training guidance. The Health and Safety Executive website [www.hse.gov.uk](http://www.hse.gov.uk) has up-to-date advice. They will email you with changes to regulations and recommendations as they occur [[www.hse.gov.uk/news/subscribe/index.htm](http://www.hse.gov.uk/news/subscribe/index.htm)]. Finally, but of vital importance, consideration must be given to the rapid rescue of personnel who have fallen.

## The Importance of Rapid Rescue - Suspension "Trauma" [Syncope]

Swift rescue of personnel who are suspended by a harness and lifeline is of vital importance. If the casualty is suspended, blood will pool in the legs. Leg veins are capable of expanding to take up to 60% of the total blood volume. The reduced venous return results in decreased cardiac output and the casualty will become sweaty, dizzy, nauseous and will faint. Depending on whether their lanyard is attached to the rear or front of the harness, the unconscious casualty's head will be canted backwards or forwards and their tongue will fall to block the airway. Even uninjured volunteers felt dizzy in as little as three minutes, typically 5 to 20 minutes. Loss of consciousness occurred in as little as five minutes, typically 5 to 30 minutes. Such rapid rescue times could not necessarily be achieved by the rescue services so it is crucial that a plan is carefully thought through on how to rescue suspended personnel using **trained on-site staff**. The Temporary Work at Height Directive states that workers must have on-site rescue equipment and training. See the Jag Rescue System on page 232.

## Notes on First Aid to a Suspension Casualty

Information on the correct procedure to adopt after recovering a suspension casualty is variable and somewhat confusing. David Halliwell, Head of Education of the South West Ambulance service says [2007] it is critical that the casualty is never laid flat, not even in the recovery position and that they should be kept sitting upright for 30 minutes. He says that if they are allowed to lay flat, the volume of blood that has pooled in their legs will return to the heart and could cause instant cardiac arrest. However, this opinion is disputed by Dr Anil Adisesesh whose research [2008] has been unable to find firm evidence concerning the problems associated with laying the casualty flat and his advice is to use the standard first aid recovery position. It is important that any person who becomes unconscious while suspended, whether appearing recovered or not, is given full medical supervision [Dial 999] as problems can also occur some days after the rescue due to renal failure.

## Reducing the Risks

It may be possible to reduce the chance of venous pooling in a conscious suspended casualty by encouraging them to wiggle their toes or raise their legs, this will help to pump blood out of the legs and to the heart. The information above has been taken from talks on the subject by David Halliwell, Head of Education of the South Western Ambulance Service and by Dr Anil Adisesesh [Health and Safety Laboratory]. Further information can be found in "Harness Suspension: Review and Evaluation of Existing Information" by Paul Seddon and obtainable as a free AMF download from the HSE website.

The person purchasing fall arrest equipment, which consists of a harness, lanyard and anchor, should be competent to do so.

## FALL ARREST

### Petzl Newton EASYFIT [International Version]

Rapid intervention fall arrest harness suitable for nonsuspended use at height. Conformity: CE EN 361, EAC, ANSI Z359.11, CSA Z259.10, UKCA Weight: Size 0 - 1655g Size 1 - 1715 g, Size 2 - 1765 g.

- ✓ Shoulder straps equipped with self locking DoubleBack buckles
- ✓ Rapid donning thanks to EASYFIT vest.
- ✓ Sternal and Dorsal attachment points with fall arrest indicators.
- ✓ Quick-attach FAST automatic buckles [Sternal and leg loops] allow the harness to be put on easily with both feet on the ground
- ✓ Stowage system for MGO connectors [page 207] on fall arrest lanyards, one each shoulder strap. In case of a fall the system releases the MGO connectors and allows the absorber to be deployed.
- ✓ Equipment loops and slots.
- ✓ Now fitted with 2 convenient zippered pockets!



code	height	thigh	waist
PETC073FA00	1.60-1.80m	440-590mm	650-800mm
PETC073FA01	1.65-1.85m	470-620mm	700-930mm
PETC073FA02	1.75-2.00m	500-650mm	830-1,200mm

code	Colour	size	price
PETC073FA00	Black/Yellow	0	£170.00
PETC073FA01	Black/Yellow	1	£170.00
PETC073FA02	Black/Yellow	2	£170.00

## ECONOMY FALL ARREST

### Multipurpose Harness HT22

Designed for applications which require a front anchorage point but they are also fitted with a rear anchorage. Leg and chest adjustment. Not suitable for suspended use. Conformity: CE EN 361. Fits up to 1,220 mm waist [48"].



code	weight	price
SAFHT22	1000g	£56.99

## WORK POSITIONING - CONVERTS TO FALL ARREST

### Petzl AVAO® SIT FAST Harness

Designed specifically for working at height this is a lightweight harness that can be converted into a full harness with the addition of the TOP or TOP CROLL chest harnesses. Self-locking DOUBLEBACK buckles on the waist belt and FAST opening buckles on the leg loops making it really easy maintain the right adjustment through your workday.

- ✓ Ventral attachment point for a descender, lanyard or work seat.
- ✓ Rear attachment point on the waistbelt for fall arrest system.

This latest version has had a few design updates. Now with ballistic Cordura fabric on the legs which is much harder wearing, the stretchy loops on the back of the harness are now replaceable and updated breathable contoured foam makes it much more comfortable to use. Conforms to CE EN 813, CE EN 358.

code	weight	size	price
PETC079BB00	1035g	0	£185.00
PETC079BB01	1075g	1	£185.00
PETC079BB02	1175g	2	£185.00

### Petzl ASTRO SIT® Harness

This harness has been designed for working at height and rope access technicians which can be converted into a full harness with the addition of the TOP or TOP CROLL chest harnesses. The gated ventral attachment point allows the user to install the necessary equipment for a progression set up.

- ✓ DOUBLEBACK self-locking buckles and FAST opening buckles that make taking the harness on or off or adjusting a doddle even while wearing gloves. The stretchy loops on the back of the harness are also now replaceable.
- ✓ Ventral attachment point for descender, progression/positing lanyard or work seat.
- ✓ Lateral attachment point for positioning lanyard in double mode.
- ✓ Sternal & dorsal attachment points for fall arrest system.
- ✓ Rear attachment point for restraint lanyard.

Petzl found that the most common users of the ASTRO range were working on offshore oil and gas so didn't really need a harness to be as sweat wicking and lightweight as other Petzl harnesses, the least of your worries if you are in the middle of the North Sea. In light of that they now have closed cell foam padding for added comfort and plastic keepers to prevent leg buckles from loosening. Conforms to CE EN 813, EN358

code	weight	size	price
PETC085AB00	1195g	0	£235.00
PETC085AB01	1220g	1	£235.00
PETC085AB02	1315g	2	£235.00

### Work Positioning Equipment

Work positioning equipment has been designed to enable workers to position themselves for work at height. Harnesses must comply to EN 358 [or EN 813 Sit Harnesses]. Work positioning equipment is not intended to arrest a fall. Even a short fall onto a waistbelt can prove fatal due to the pressure on the internal organs. The SIT harnesses listed here can be used alone as work-positioning but can be converted to full fall arrest harnesses by adding the TOP chest harness.

## BOSUN'S CHAIR

### Petzl LITEPOD

This work seat allows you to sit whilst suspended in your harness for long periods giving you some additional comfort.

Connects to the harness via a T shape bar that fits through the body of shackles on either side of the ventral attachment point. You could also use the Petzl MINO or using connectors on the loops at the end of the webbing.

Seat adjusts with self-locking DOUBLEBACK buckles and has 2 loops for attaching accessories or equipment.



code	description	weight	price
PETS071BA00 NEW	Petzl LitePOD	770g	£105.00
PETC087AA00	Shackles for ASTRO®		£14.00

Size Guide	Thigh	Waist	Height
Size 0	450-660mm	600-900mm	1.60-1.80m
Size 1	450-660mm	700-1100mm	1.65-1.85m
Size 2	600-750mm	800-1300mm	1.75-2.00m
TOP [one size]	n/a	n/a	1.60-2.00m

## CHEST HARNESSES

### Petzl TOP CROLL Chest Harness

Chest harness with integrated large CROLL for use with the AVAO SIT FAST or ASTRO SIT, converting them into full harnesses.

- ✓ Widely spaced shoulder straps that reduce neck chafing
- ✓ Sternal attachment point for fall arrest system
- ✓ Conforms to CE EN 361 and CE EN 12841 type B
- ✓ Rope diameter to used with Larger CROLL: 10 to 13 mm



code	weight	price
PETC081CB00	525g	£130.00

# HARNESSES

## WORK POSITIONING & FALL ARREST

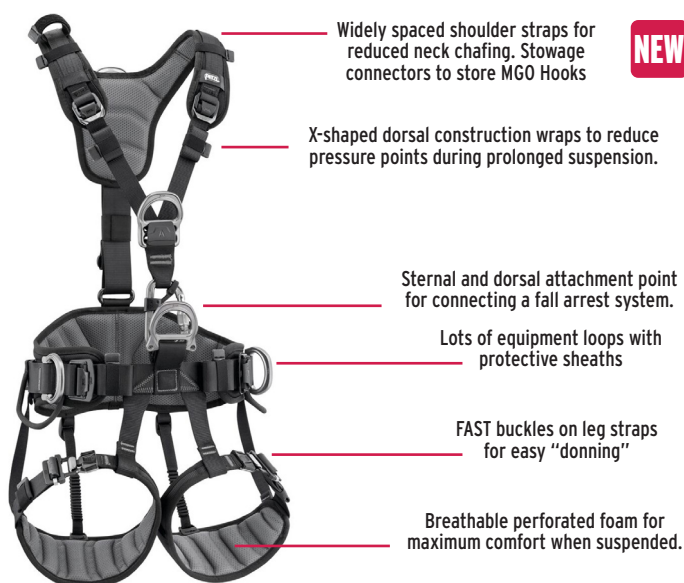
### Petzl AVAO FAST® Full Harness

Full harness for working at height and rope descent that has been designed to be lightweight and comfortable.

- ✓ Lateral attachment point for positioning lanyard in double mode
- ✓ Sternal & Dorsal attachment points for fall arrest systems
- ✓ Rear attachment point for restraint lanyard

There have been a few design updates the AVAO FAST, they now have ballistic Cordura fabric on the leg which is much harder wearing, stretchy loops at the back of the harness are now replaceable, load bearing leg strap now sits on the side so it's more comfortable when not in use i.e when you're just walking around, the shoulder straps are now 'floating' so the webbing can slide when reaching, there is greater distance between the legs for comfort and, to reduce weight, the webbing has been made more narrow where possible. Conforms to CE EN 361, EN 813, EN 358.

code	weight	price
PETC071BB01	1735g	£285.00
PETC071BB02	1835g	£285.00



NEW

## WORK POSITIONING & FALL ARREST - ROPE ACCESS

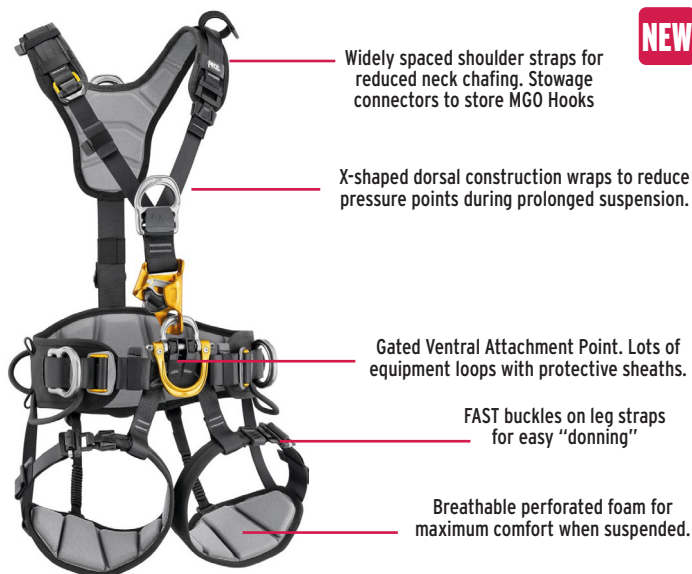
### Petzl ASTRO® Full Harness

Designed for rope access technicians with comfort in mind with contoured closed cell foam padding and semi rigid waist belt and leg loops for added support.

- ✓ DOUBLEBACK self-locking buckles and FAST opening buckles that make taking the harness on or off or adjusting a doddle even while wearing gloves.
- ✓ Metal side attachment points can be folded down to prevent snagging
- ✓ The stretchy loops on the back of the harness are also now replaceable.
- ✓ Ventral attachment point for descender, progression, positioning lanyard or work seat
- ✓ Lateral attachment point for positioning lanyard
- ✓ Sternal & Dorsal attachment point for fall arrest systems
- ✓ Rear attachment point on waistbelt for restraint lanyard

Much like the SIT version Petzl has found that the most common users of the ASTRO range were working on offshore oil and gas so didn't really need a be as sweat wicking and lightweight as other harnesses, least of your worries if you're in the middle of the North Sea. In light of that they now have closed cell foam padding for added comfort and plastic keepers to prevent leg buckles from loosening. Conforms to CE EN 361, EN 813, EN 358, EN12841 type B.

code	weight	price
PETC083AB01	1935g	£350.00
PETC083AB02	2060g	£350.00



NEW

## WIRE ANCHOR STROPS

### Wire Anchor Strop

These 7 mm diameter galvanised steel wire strops are commonly used in the rope access industry to provide a moveable anchor point over RSJ's, truss, and roof beams etc. They have a ferrule-secured thimble eye each end and a protective plastic sleeve. EN 795:1997 has no requirement for Class B anchors to have a breaking load marked on them. Before use check for damaged wire, wire slipped in the ferrule, damaged or deformed ferrules, broken strands, damaged protective cover and deformed eyes. CE marked EN 795 Class B.

code	length	price
SAFL705	500mm	£14.75
SAFL710	1m	£16.67
SAFL720	2m	£21.38

