

## Fall arrest

Where employees are exposed to serious fall hazards, and protection by other means such as guard rails or nets are not used, the Occupational Safety & Health Administration (OSHA) requires employers to establish a personal fall arrest program for fall protection. These programs typically identify common hazards and offer solutions for mitigating them, usually by instructing the use of fall protection systems, outlining situations where fall arrest devices are appropriate for use.

It is important to understand how personal fall arrest systems work and what behaviors are required to use them safely. It is of course good practice to visually inspect these systems and physically test them prior to use.

Magma harnesses, designed to suspend a free falling worker. Even with a harness properly in place, the force required to arrest a free fall places considerable stress on the body. For example, a 200-pound person free-falling 6 feet, with an additional distance of 3.5 feet for the system to completely arrest the fall, equals a total force of 542 pounds of force generated on the body. While personal fall arrest systems save lives, the body can be incredibly stressed by the act of violent restraint.



If the harness is improperly positioned or improperly attached, the stress to the groin, back, and chest increases dramatically. The pressure applied to the legs from the leg straps

supporting the body's weight, even for properly worn harnesses, can result in a restriction of blood flowing to and from the legs. If the worker cannot be rescued quickly, serious injury can result from this condition. Even with all parts of the system working perfectly, a worker suspended in a body harness faces the serious hazard of restricted blood flow to and from their legs.

The ground is not the only thing that poses a hazard to employees working at heights. Contact with any lower level structure or other object beneath workers also poses a serious hazard in a fall, even when wearing fall arrest equipment. The components in a personal fall arrest system are designed to work together to limit a worker's fall distance and the deceleration forces on the worker's body to safe levels

One method for preventing this situation until rescue can be accomplished is the use of trauma suspension straps. These straps are deployed by the suspended worker and attached to the body harness, and allow the person to stand with one or both feet in a stirrup. This removes the body's weight from the leg straps that tend to cut off circulation to the legs until the worker is rescued.

To protect your safety in the event of a fall, OSHA requires specific minimum requirements. Anchorages to which personal fall arrest equipment is attached must be capable of supporting at least 5,000 pounds per employee attached. Rings and snap hooks must also be capable of sustaining a minimum tensile load of 5,000 pounds. Self-retracting lifelines and lanyards which automatically limit free fall distance to 2 feet or less must be capable of sustaining a minimum tensile load of 3,000 pounds applied to the device with the lifeline or lanyard in the fully extended position.

Self-retracting lifelines and lanyards which do not limit free fall distance to 2 feet or less, ripstitch lanyards, and tearing and deforming lanyards must be capable of sustaining a minimum tensile load of 5,000 pounds applied to the device with the lifeline or lanyard in the fully extended position.



## User Instructions

Before every use, the user must be suitably trained and qualified to carry out a pre-use check to ensure the RTFA is free from defects, and is in a safe condition for use.

Carefully pull out the cable or webbing and check for damage or abrasion. (Fig 1).

Where fitted, check fall indicator hook and if **red is showing, do not use** (Fig 2). On webbing RTFA, the indicator may be either tear stitch (Fig 3) or absorber webbing (Fig 4). **If it has been deployed, do not use.**

The pre-use check MUST include the locking mechanism. Slowly check cable or webbing extends and retracts correctly (Fig 5). Do not allow to retract at speed.

Pull cable or webbing sharply with a gloved hand to ensure the lanyard locks correctly (Fig 6). **NEVER use the product if this does not happen.**

Ensure that the connector hooks open and close properly.

The housing end should be attached to a suitable anchor point with a minimum strength of 12kN (ideally approved to EN795) with a EN362 approved compatible connector (Fig 7). Use an anchor sling as necessary.

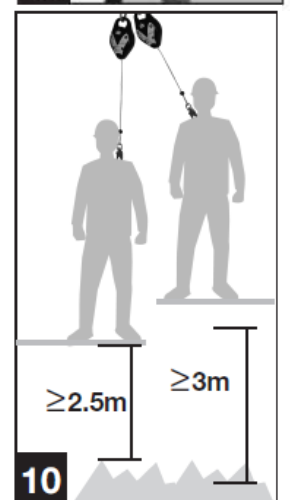
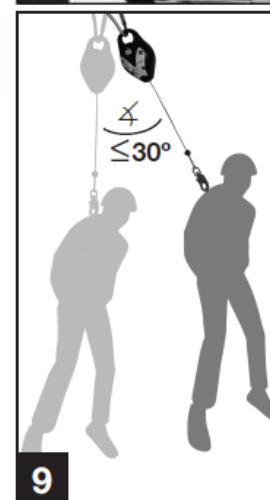
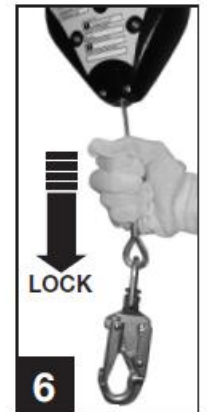
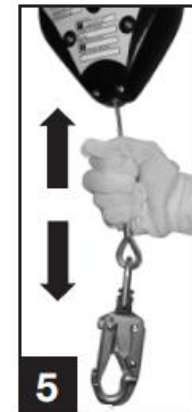
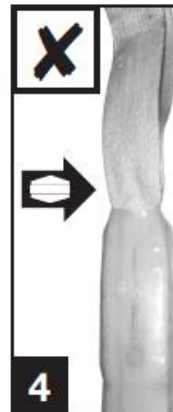
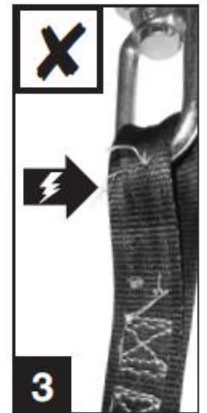
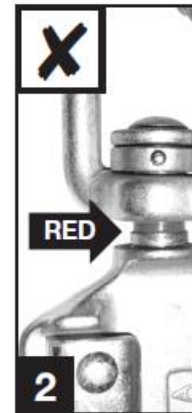
The connector at the lanyard end shall be attached to the harness attachment point marked with letter A (Fig 8).

**The chaser range is intended for use with the housing end at the harness attachment point, and the connector at the lanyard end to the anchor point.**

**Check the maximum allowed weight for a user.**

Always try to ensure that anchor points are vertically above the user to reduce pendulum effect and the added risk of striking an obstacle.

Avoid using where the angle to the vertical is greater than 30 degrees (Fig 9). The block will function in inclined and horizontal position but **be aware of pendulum effect & that edge contact**



**in the event of a fall is possible.**

Ensure that there is sufficient free space below the feet of the user in the event of a fall. This should be at least 2.5 metres below foot level, or up to 3 metres if used at 30 degree angle (Fig 10). Always ensure that the RTFA lanyard is taught without slack as a slack cable is potentially dangerous.

**Tips for properly attaching your connecting device to an anchor point:**

- Do work directly under the anchorage, whenever possible, to avoid injury resulting from swinging and striking another object during a fall.
- Do ensure that the anchorage is at a height that will not allow a lower level to be struck should a fall occur.
- Do attach to the anchorage or anchorage point specified by the qualified person.
- Do tie off in a manner that limits free fall to the shortest possible distance.
- Don't attach your snap hook around a sharp or rough edge. Use a cross-arm strap or other compatible anchorage connector.
- Don't attach multiple lanyards together.

Encourage your workers to always wear personal fall arrest systems, and to remain vigilant about the presence of potential pitfalls when working at heights.

**Fall Arrest Systems**

Fall arrest systems are designed to minimize injury from a fall. It is important that fall arrest equipment is used correctly to prevent injury as much as possible. Fall arrest equipment includes body support devices (harnesses), lanyards and anchorages.

**Anchorage**

An anchor is a secure point attached to a fixed structural component, like a beam or column. An anchor must be able to support the arresting forces if a fall occurs and a static load of at least 5,000 pounds (2268 kg) for each employee attached to it.

**Body Harness**

A body harness is a body support device that distributes fall arrest forces across the shoulders, thighs, and pelvis.

## Connectors

Connectors include any piece of equipment that links the body harness to the anchor. Connectors commonly consist of snap hooks affixed to a shock-absorbing lanyard or self-retracting lifeline (SRL) that arrests the body during a fall.

## FEATURES

- MAGMA GJ200 lifelines provide safe, reliable protection for workers while also allowing for more freedom of movement around the jobsite
- Impact resistant thermoplastic housing with swivel top and carabiner
- Robust internal braking mechanism
- Galvanized steel cable lifeline with swivel snap hook
- Includes Impact indicator and Spring Cushion
- Engraved ID tags to aid in inspection
- Meets ANSI z359.14, Class B and OSHA Standards

## SPECIFICATIONS

FEATURE	SIZE / DETAILS
Model	GJ200
Approx. Product Length (ft)	30, 25, 20
Lifeline Material	Galvanized Steel Cable
Housing Connector	Steel Carabiner
Housing Material	ThermoPlastic
Anchorage Connector	Carabiner
Lifeline Connector	Swivel Snap
Certifications / Code	ANSI z359.14, Class B, OSHA Standards