

## Personal Fall Restraint System Components

Personal fall restraint systems are positioning systems that prevent an individual from stepping into a fall hazard. The equipment is not designed to arrest a fall but merely restrains an individual. For this reason the components of a fall restraint system can be considerably less robust than a fall arrest system. Fall arrest components can be used in fall restraint systems but, positioning systems and components should never be used in fall arrest systems.

**Body Harness:** Straps which may be secured on the employee in a manner that will distribute the fall arrest forces over the thighs, pelvis, waist, chest and shoulders with means for attaching it to other components of a personal fall arrest system via D-rings.

**Inspection:** Inspect harness prior to donning (see checklist). Formal semi-annual inspections are conducted and date of last inspection placed on tag (see checklist).

**Maintenance and Storage:** Harnesses should only be cleaned with a mild detergent and warm water, towed off to remove excess water, and then hung by D-Ring to dry. Never place these harnesses in a dryer or expose to excessive heat. All equipment should be stored in a cool dry place and not subjected to direct sunlight. Harnesses are not repairable. If any part of the harness is damaged or if the harness is subjected to a fall arrest the harness must be removed from field service and replaced.

**Variations:**

- **Body Belts:** A body belt is a reinforced belt which wraps around the waist of an individual. It has an attachment point in the rear of the belt and is used for fall positioning. Yale University **strongly recommends** the use of a body harness rather than a belt due to the potential of unintended misuse of a belt in a fall arrest.



**Positioning Lanyards:** A flexible rope, cable or strap that has a connector at each end for connecting the body harness to an anchorage point.

**Inspection:** Inspect lanyard prior to donning (see checklist). Formal semi-annual inspections are also conducted (see checklist).

**Maintenance and Storage:** Lanyards should only be cleaned with a mild detergent and warm water, towed off to remove excess water, and then hung to dry. Never place in a dryer or expose to excessive heat. All equipment should be stored in a cool dry place and not subjected to direct sunlight.

**Variations:**

- None for use at Yale (Please note that shock absorbing lanyards and self retracting lanyards should never be used for restraint or positioning systems).



**Connectors:** A device, which is used to connect parts of the personal fall restraint system together. It may be an independent component of the system, such as a carabiner, or it may be an integral component of part of the system (such as a d-ring sewn into a harness, or a snap-hook spliced or sewn to a lanyard). All connectors must have locking features to avoid unclipping.

Maintenance and Storage: wipe clean and store dry

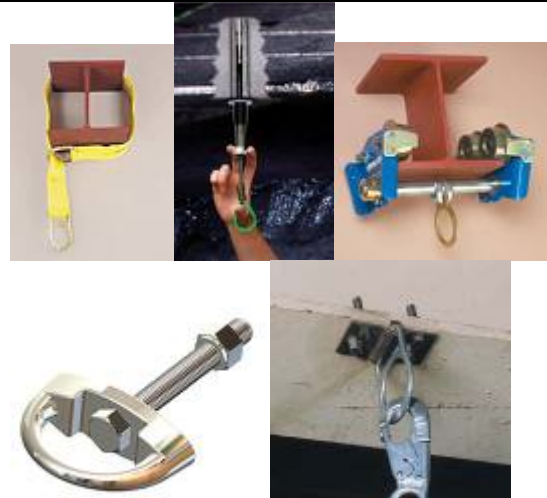
Variations: Snap hooks, carabiners



**Anchorage:** An engineered and designed point of attachment for lanyards. Anchorages used in restraint systems must be able to sustain a 1000 lb pull force for each person tied off to it.

Maintenance and Storage: wipe clean and store dry if not permanent.

Variations: Anchors may be mounted temporarily (top row) or permanently (second row). They must be positioned so that when the lanyard is fully extended the employee can not reach the unprotected edge. Examples include: Anchor straps, friction bolts, Beam anchors, D-bolt and D-ring anchors



A special type of anchorage is the horizontal life line. In this case a line is suspended between two anchorage points. The connector of a personal fall restraint system connects to the line.

