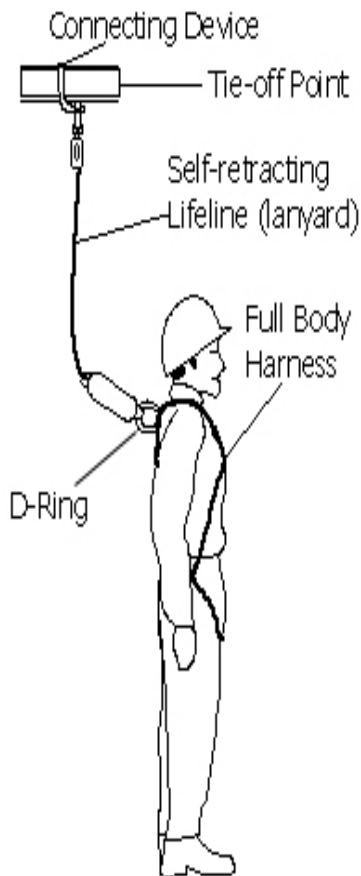


FALL ARREST SYSTEMS

(For assistance, please contact EHS at (402) 472-4925, or visit our web site at <http://ehs.unl.edu/>)

A fall arrest system may be required if an employee could fall from an elevated position. A personal fall arrest system must be used anytime an employee is on a walking/working surface (horizontal and vertical surface) with an unprotected side or edge that is 6 feet (1.8 m) or more above a lower level, unless protected from falling by the use of guardrail or safety net systems.

A fall arrest system will only come into service should a fall occur. A full-body harness with a shock-absorbing lanyard or a retractable lifeline is the only product recommended. A full-body harness distributes the forces throughout the body, and the shock-absorbing lanyard decreases the total fall arresting forces.



1. **A full body harness** must be worn for fall protection when:
 - a. Working six feet or more above a walking/working surface without a guardrail system.
 - b. Working from mobile lifting equipment. This will keep the individual from being thrown from the equipment in the event of sudden movement. However, a fall arrest system is not required when: 1) working in the basket of a scissor-type manlift only, AND; 2) No part of the worker's body will be extended past the rails of the platform at any time. Individuals working in boom-type lifts must use a fall arrest system at all times.

2. **The harness may be required** for fall protection during other working situations, including when working at heights of less than six feet. Example of these situations are:
 - a. If, in the area supervisor's opinion, it would make the working situation safer.
 - b. When working in confined spaces.
 - c. When working from ladders over six feet in height and three points of contact are not maintained.
 - d. When working above dangerous equipment or

facilities (e.g., live electrical equipment, machinery, areas where an employee could be impaled if they fall, etc.).

Inspection and Maintenance

- The full body harness and lanyard must be inspected before each use by the employee. The harness must be inspected for shock loading, rips or tears, damaged eyelets, damaged rivets, damaged buckles and a damaged D-ring. Damaged equipment must be removed from service.
- Equipment that has been used in a fall must be immediately removed from service and not be used again for employee protection until inspected by a competent person (such as a manufacturer's representative) and determined to be undamaged and suitable for reuse, or following refurbishment by the manufacturer.
- Do not expose nylon lanyards to extreme heat as nylon becomes brittle. Fibers will break when flexed and should not be used above 180 degrees Fahrenheit.
- Paint will penetrate and dry, restricting movements of fibers. Drying agents and solvents in some paints, including permanent markers, will appear as chemical damage. Do not mark on the fibers with permanent markers.

Attachment of harness to anchor point

- A combination of lanyards and connectors may be needed to attach the worker's harness to the actual anchorage point. Anchorage used for attachment of personal fall arrest equipment must be under the supervision of a qualified person and rigged such that an employee can neither free fall more than six feet or contact any lower level.
- Anchorages must be independent of any anchorage being used to support or suspend platforms.
- Equipment must be selected based on the relationship of the height of the tie-off point vs. the position of the worker and the material of construction of the tie-off point (i.e., I-beam, round pipe, or eyebolt). Dee rings, snap-hooks and other types of connectors must be compatibly sized with other members of the system and to prevent accidental disengagement.
- The anchor point needs to be able to support 5000 pounds per person.
- Maximum combined body and tool weight for each person using a fall arrest system is limited to 310 lbs. or less.
- When vertical lifelines are use, each employee must be attached to a separate lifeline.

- When using a fall arrest system in a man-lift, the lanyard may only be attached to the manufacturer's designated tie-off points.

Training

Training is required for employees who might be exposed to fall hazards. A written certification record must be issued to document the training, including the name of the employee, date(s) of training, and signature of the person who conducted the training. Training must include the following topics:

- Nature of fall hazards in the work area.
- Correct procedures for erecting, maintaining, disassembling, and inspecting fall protection systems.
- Use and operation of guardrail systems, personal fall arrest systems, safety net systems, warning line systems, controlled access zones and other protection to be used.
- Role of each employee in fall protection plans, such as inspection and proper use of equipment
- Limitations on the use of mechanical equipment during performance of roofing work on low sloped roofs.
- Correct procedures for handling and storage of equipment
- Erection of overhead protection, if applicable.

Safe Retrieval Plan

A safe retrieval plan must be established in case someone becomes suspended in the air as a result of a fall. The plan should include equipment available to retrieve a suspended person and all workers should understand the plan. The plan should be designed to minimize the amount of time in suspension and consider the systems used, heights involved, hazards present, and potential medical situations.

For more information on fall arrest systems, visit the OSHA web site at:

<<http://www.osha.gov/dts/shib/shib032404.html>>.