

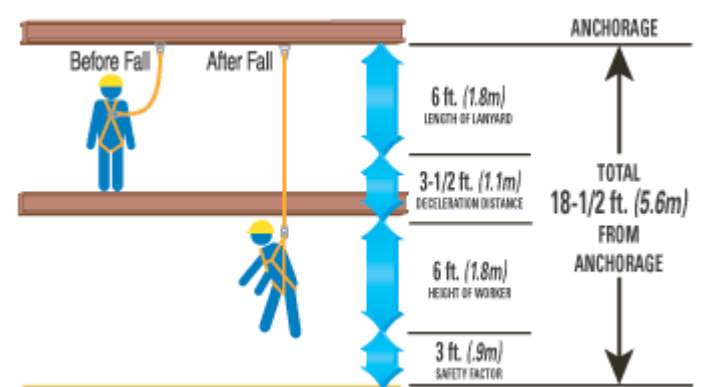
# Active Fall Protection Reminders

1. Fall protection is required for working at heights greater than 4 feet.
2. Before using a Personal Fall Arrest System first consider Hazard Elimination, Passive Fall Protection or a Fall Restraint System.
3. Only trained Authorized Persons may use active fall protection. Authorized Persons receive equipment specific training every two years. Click [here](#) to request training.
4. Authorized Persons must complete a **Rescue Plan** prior to every use of active fall protection.
5. All equipment must be inspected by the user prior to use.
6. Ensure anchorages are rated for the number of users.
7. When possible Self-Retracting Lifelines are recommended over Shock Absorbing Lanyards as they minimize free fall distance and increase the chance of self-rescue.
8. Determine and verify the **Total Fall Clearance Distance**. This is the minimum vertical distance between the worker and the lower level that is necessary to ensure the worker does not contact a lower level during a fall. Most manufacturers of rated personal fall protection equipment provide online calculators/tools for this purpose. Alternatively, Total Fall Clearance Distance can be calculated by the summation of the following:
  - + **Freefall Distance.** This is the distance the worker falls before the system begins to arrest/slow the fall. When using self-retracting lifelines, the typical free fall distance is 2 feet. An accounting for the lanyard length, location of anchorage relative to D-ring (anchorage overhead, level with or below D-ring) and potential for swing.
  - + **Harness Stretch.** This is the distance a properly sized and worn harness stretches in the event of a fall. 1-foot is generally used for potential harness stretch.
  - + **Height of Worker.** 6 feet is typically used.
  - + **Deceleration Distance.** This is the elongation of the arresting device when deployed after the Freefall Distance. Most devices have a Deceleration Distance of 3.5 feet.
  - + **Safety Factor.** This is added to ensure a buffer is provided from the lower level obstruction after a fall. A 2-foot safety factor is a minimum.
  - = **Total Fall Clearance Distance**
9. If a fall and rescue occurs, observe the following:
  - a. Follow the prepared **Rescue Plan**.
  - b. Call 911 if deemed appropriate.
  - c. Once someone has been lowered and released, the method for preventing reflow syndrome (heart or kidney failure due to a rush of potentially toxin enriched blood) is to keep the rescued victim sitting up if at all possible, with knees bent to about chin level. They should be kept in this position for at least 30 minutes, even if they feel like they have recovered.
  - d. Report all incidents to EHS.
  - e. Remove and tag all fall arrest system components from service until an inspection can be performed by a Qualified Person.
  - f. Ensure all personnel impacted by the activation of a fall arrest system receive medical evaluation to determine the possibilities and potential extent of injuries.
  - g. Complete an online [First Report of Injury Form](#) even if no injuries are apparent.
  - h. Document the reported incident to include the location, date, equipment involved, cause and corrective action.

## Fall Distance Diagrams with Sample Calculations\*

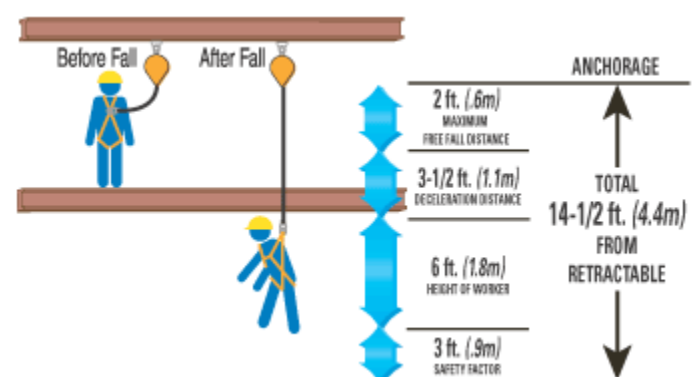
### Calculating Fall Clearance Distance Using a Shock-Absorbing Lanyard and D-Ring Anchorage Connector

1. First, add the length of the shock-absorbing lanyard (6 ft.) to the maximum elongation of the shock absorber during deceleration (3-1/2 ft.) to the average height of a worker (6 ft.).
2. Then, add a safety factor of 3 ft. to allow for the possibility of an improperly fit harness, a taller than average worker and/or a miscalculation of distance.
3. The total, 18-1/2 ft. is the suggested safe fall clearance distance for this example.



### Calculating Fall Clearance Distance Using a Retractable Lifeline

1. First, add the maximum free fall distance (2 ft.) with a retractable lifeline to the maximum deceleration distance (3-1/2 ft.) to the average height of a worker (6 ft.).
2. Then, add a safety factor of 3 ft. to allow for the possibility of an improperly fit harness, a taller than average worker and/or a miscalculation of distance.
3. The total, 14-1/2 ft. is the suggested safe fall clearance distance for this example.



\*<http://www.harnessland.com/Articles.asp?ID=255>