



# FALL PREVENTION ALLIANCE TOOLBOX TALK ON CALCULATING FALL DISTANCE SHOCK ABSORBING LANYARD

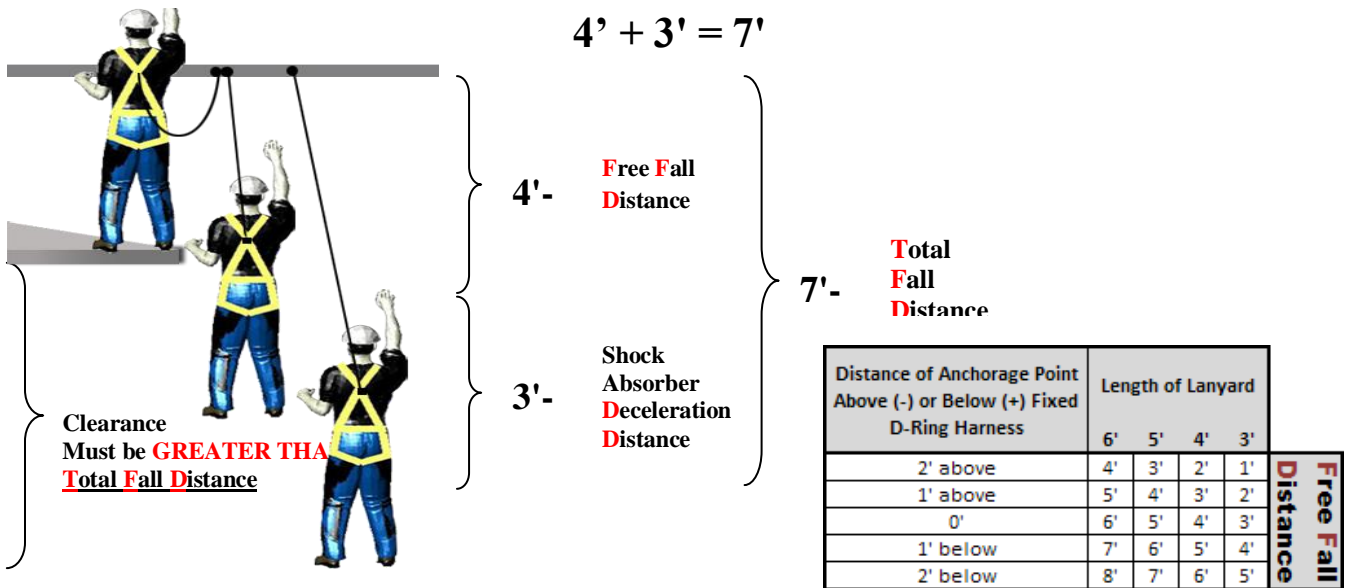
Company: \_\_\_\_\_ Job Site Location: \_\_\_\_\_

Date: \_\_\_\_\_ Start Time: \_\_\_\_\_ Finish Time: \_\_\_\_\_ Foreman/Supervisor: \_\_\_\_\_

It is important to properly calculate Total Fall Distance when using a fall arrest protection system. Proper use assures that you have enough clearance for a fully arrested fall without hitting anything below. To determine your total fall distance, just add the Free Fall Distance to the Shock Absorber Deceleration Distance. For Example: Suppose you are using a 4 foot lanyard w/ Shock Absorber that extends to 3 feet and the anchorage point is LEVEL with the fixed D-ring on the back of your Harness. The Total Fall Distance (TFD) equals the Free Fall Distance (FFD) plus the Shock Absorber Deceleration Distance (DD).

$$\text{FFD} + \text{DD} = \text{TFD}$$

$$4' + 3' = 7'$$



If you are using an anchorage point above or below the fixed D-ring connection, this distance must be subtracted or added to the Free Fall Distance. Use the table above to help find the Free Fall Distance to calculate Total Fall Distance. REMEMBER - these numbers DO NOT include a SAFETY FACTOR (additional fall clearance). While there is NO requirement for a safety factor distance, most manufacturers suggest that a 3 foot SAFETY FACTOR be added to your Total Fall Distance.

These calculations require the use of a fixed D-Ring harness. If a NON - fixed D-Ring harness is used you MUST add an additional 12 inches to your total fall distance. If you are unable to ensure a clearance greater than the total fall distance, alternative work methods or equipment MUST be used.

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Through the OSHA and Houston Fall Prevention Alliance, this Toolbox Talk was developed for informational purposes only. It does not necessarily reflect the official views of OSHA or the U.S. Department of Labor. July 2016.

The Houston Fall Prevention Alliance was formed by the below organizations to provide their members, and others, with information, guidance and access to training resources that will help them protect the health and safety of workers, particularly by reducing and preventing exposure to fall hazards in the construction industries and addressing fall related issues and understand the rights of workers and the responsibilities of employers under the Occupational Safety and Health Act (OSH Act). In developing this alliance, these organizations recognize that OSHA's State Plan and On-site Consultation Project partners are an integral part of the OSHA national effort.





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