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Fall Clearance Calculator

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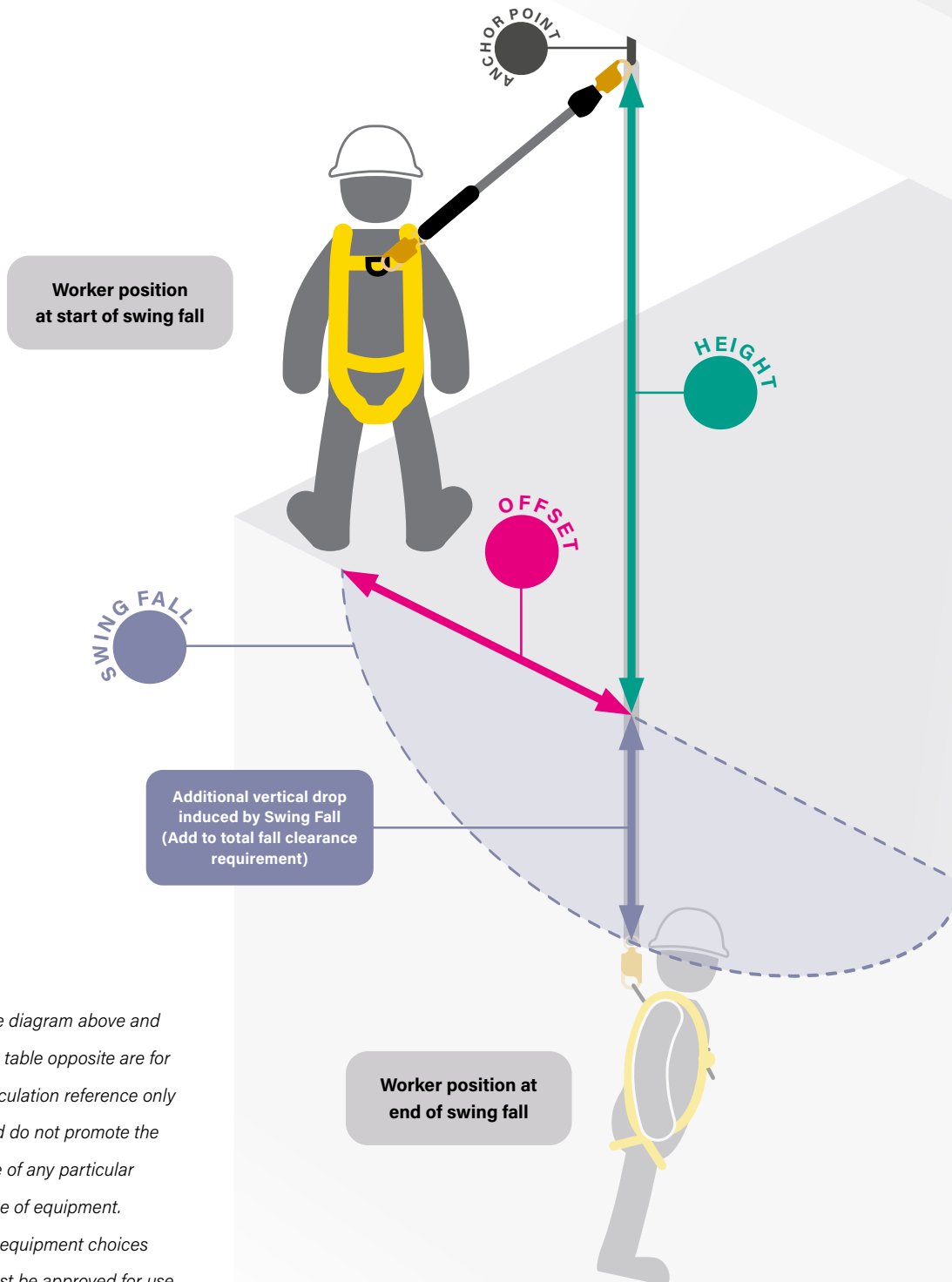
Introduction

Fall clearance calculation is an essential part of fall protection. Prior to beginning work it must be determined that there is sufficient fall clearance so that, in the event of a fall, the fall protection system will not allow a worker to impact the ground or any other obstruction.

The connecting device (such as a lanyard, self-retracting lifeline, or vertical lifeline) plays a primary role in fall clearance calculation, as it controls variables such as permitted free fall or maximum potential deceleration distance. Always be sure to refer to the connecting device instruction manual to determine what it is rated for.

Swing fall is another important part of fall clearance calculation and is controlled by a number of factors, including anchor height and worker position in relation to the anchor. To determine permitted worker positioning and any additional vertical drop distances that must be included in the fall clearance calculation, use the table/charts on the following pages.

Anchor Point: Above Dorsal D-ring



The diagram above and the table opposite are for calculation reference only and do not promote the use of any particular type of equipment. All equipment choices must be approved for use by a competent person.

Anchor Point: Above Dorsal D-ring

Additional Clearance Required Due to Swing Fall (ft)

Height (ft)	Offset (ft)										
	0	2	4	6	8	10	12	14	16	18	20
50	0.0	0.0	0.2	0.4	0.7	1.1	1.6	2.1	2.8	3.5	NO
48	0.0	0.0	0.2	0.4	0.7	1.1	1.6	2.2	2.9	3.6	NO
46	0.0	0.0	0.2	0.4	0.8	1.2	1.7	2.3	3.0	3.8	NO
44	0.0	0.1	0.2	0.5	0.8	1.3	1.8	2.4	3.2	4.0	NO
42	0.0	0.1	0.2	0.5	0.9	1.3	1.9	2.6	3.3	NO	NO
40	0.0	0.1	0.2	0.5	0.9	1.4	2.0	2.7	3.5	NO	NO
38	0.0	0.1	0.2	0.5	1.0	1.5	2.1	2.8	3.7	NO	NO
36	0.0	0.1	0.3	0.6	1.0	1.6	2.2	3.0	3.9	NO	NO
34	0.0	0.1	0.3	0.6	1.1	1.7	2.4	3.2	NO	NO	NO
32	0.0	0.1	0.3	0.7	1.2	1.8	2.5	3.4	NO	NO	NO
30	0.0	0.1	0.3	0.7	1.2	1.9	2.7	3.7	NO	NO	NO
28	0.0	0.1	0.3	0.8	1.4	2.1	2.9	3.9	NO	NO	NO
26	0.0	0.1	0.4	0.8	1.5	2.3	3.2	NO	NO	NO	NO
24	0.0	0.1	0.4	0.9	1.6	2.5	3.5	NO	NO	NO	NO
22	0.0	0.1	0.5	1.0	1.8	2.7	3.8	NO	NO	NO	NO
20	0.0	0.1	0.5	1.2	2.0	3.0	NO	NO	NO	NO	NO
18	0.0	0.2	0.6	1.3	2.3	3.4	NO	NO	NO	NO	NO
16	0.0	0.2	0.7	1.5	2.6	3.9	NO	NO	NO	NO	NO
14	0.0	0.2	0.8	1.8	3.0	NO	NO	NO	NO	NO	NO
12	0.0	0.3	1.1	2.2	3.6	NO	NO	NO	NO	NO	NO
10	0.0	0.4	1.4	2.8	NO	NO	NO	NO	NO	NO	NO
8	0.0	0.6	2.0	3.7	NO	NO	NO	NO	NO	NO	NO
6	0.0	1.2	3.1	NO	NO	NO	NO	NO	NO	NO	NO
4	0.0	2.0	4.0	NO	NO	NO	NO	NO	NO	NO	NO
2	0.0	2.0	4.0	NO	NO	NO	NO	NO	NO	NO	NO
0	0.0	2.0	4.0	NO	NO	NO	NO	NO	NO	NO	NO

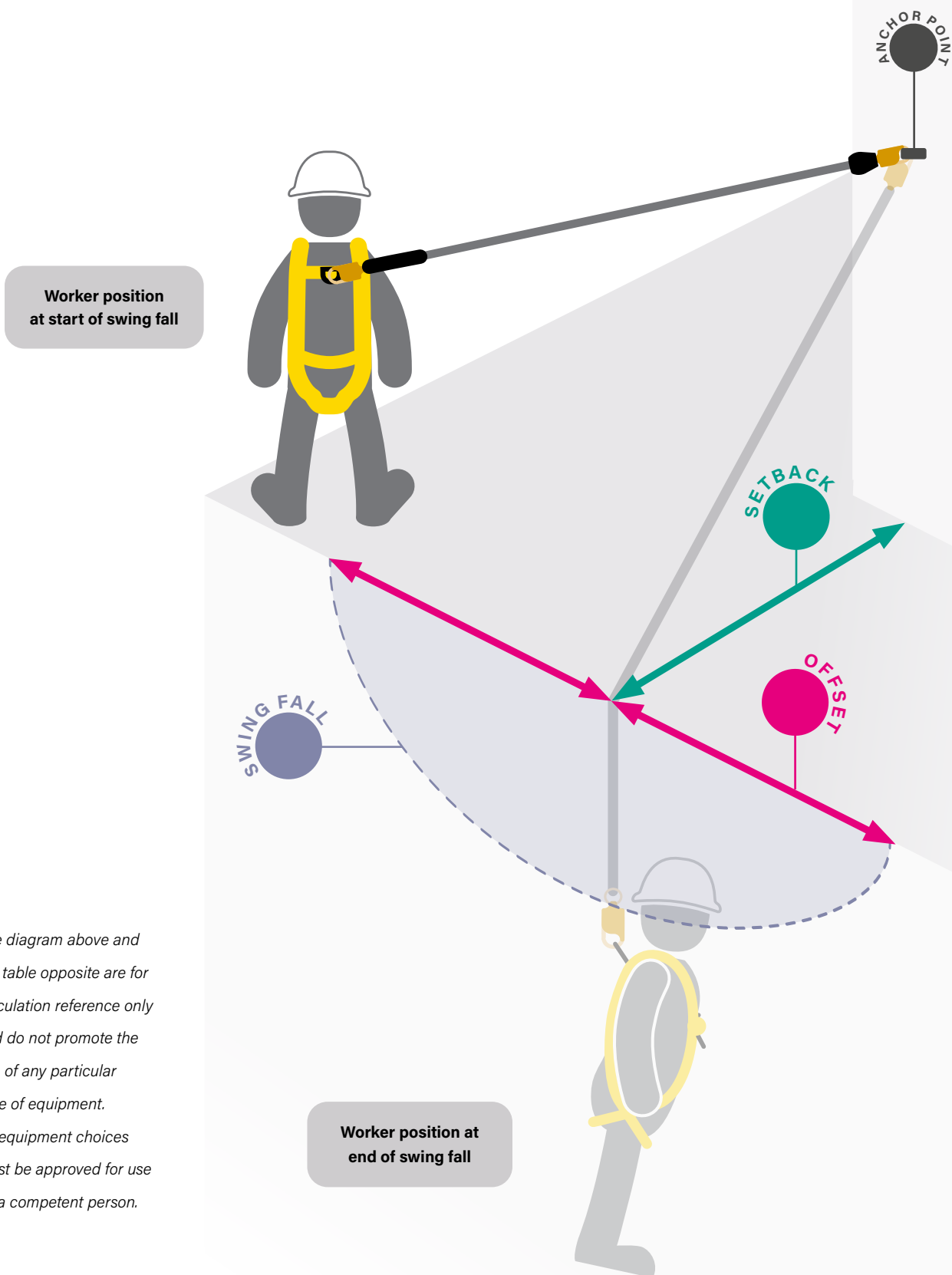
Allowable
 Leading Edge
 Not Allowable

In the above table, **Height** is the distance of the anchor point above the work surface.

Offset is the distance of the worker away from in-line with the anchor point.

Leading Edge designation is not intended for fall clearance calculations, but rather for appropriate equipment selection.

Anchor Point: Level with Dorsal D-ring



The diagram above and the table opposite are for calculation reference only and do not promote the use of any particular type of equipment. All equipment choices must be approved for use by a competent person.

Anchor Point: Level with Dorsal D-ring

Additional Clearance Required Due to Swing Fall (ft)

Setback (ft)	Offset (ft)										
	0	2	4	6	8	10	12	14	16	18	20
50	0.0	0.0	0.2	0.4	0.6	1.0	1.4	1.9	2.5	3.1	3.8
48	0.0	0.0	0.2	0.4	0.7	1.0	1.5	2.0	2.6	3.2	4.0
46	0.0	0.0	0.2	0.4	0.7	1.1	1.5	2.1	2.7	3.4	NO
44	0.0	0.0	0.2	0.4	0.7	1.1	1.6	2.2	2.8	3.5	NO
42	0.0	0.0	0.2	0.4	0.7	1.2	1.7	2.3	2.9	3.7	NO
40	0.0	0.0	0.2	0.4	0.8	1.2	1.7	2.4	3.1	3.8	NO
38	0.0	0.1	0.2	0.5	0.8	1.3	1.8	2.5	3.2	NO	NO
36	0.0	0.1	0.2	0.5	0.9	1.4	1.9	2.6	3.4	NO	NO
34	0.0	0.1	0.2	0.5	0.9	1.4	2.0	2.7	3.5	NO	NO
32	0.0	0.1	0.2	0.6	1.0	1.5	2.2	2.9	3.7	NO	NO
30	0.0	0.1	0.3	0.6	1.0	1.6	2.3	3.1	4.0	NO	NO
28	0.0	0.1	0.3	0.6	1.1	1.7	2.4	3.3	NO	NO	NO
26	0.0	0.1	0.3	0.7	1.2	1.8	2.6	3.5	NO	NO	NO
24	0.0	0.1	0.3	0.7	1.3	2.0	2.8	3.7	NO	NO	NO
22	0.0	0.1	0.4	0.8	1.4	2.1	3.0	4.0	NO	NO	NO
20	0.0	0.1	0.4	0.9	1.5	2.3	3.2	NO	NO	NO	NO
18	0.0	0.1	0.4	0.9	1.6	2.5	3.5	NO	NO	NO	NO
16	0.0	0.1	0.5	1.0	1.8	2.8	3.9	NO	NO	NO	NO
14	0.0	0.1	0.5	1.2	2.0	3.1	NO	NO	NO	NO	NO
12	0.0	0.2	0.6	1.3	2.3	3.4	NO	NO	NO	NO	NO
10	0.0	0.2	0.7	1.5	2.6	3.8	NO	NO	NO	NO	NO
8	0.0	0.2	0.8	1.7	2.9	NO	NO	NO	NO	NO	NO
6	0.0	0.3	1.0	2.0	3.4	NO	NO	NO	NO	NO	NO
4	0.0	0.3	1.1	2.4	3.8	NO	NO	NO	NO	NO	NO
2	0.0	0.4	1.3	2.7	NO	NO	NO	NO	NO	NO	NO
0	0.0	0.4	1.4	2.8	NO	NO	NO	NO	NO	NO	NO

Allowable
 Leading Edge
 Not Allowable

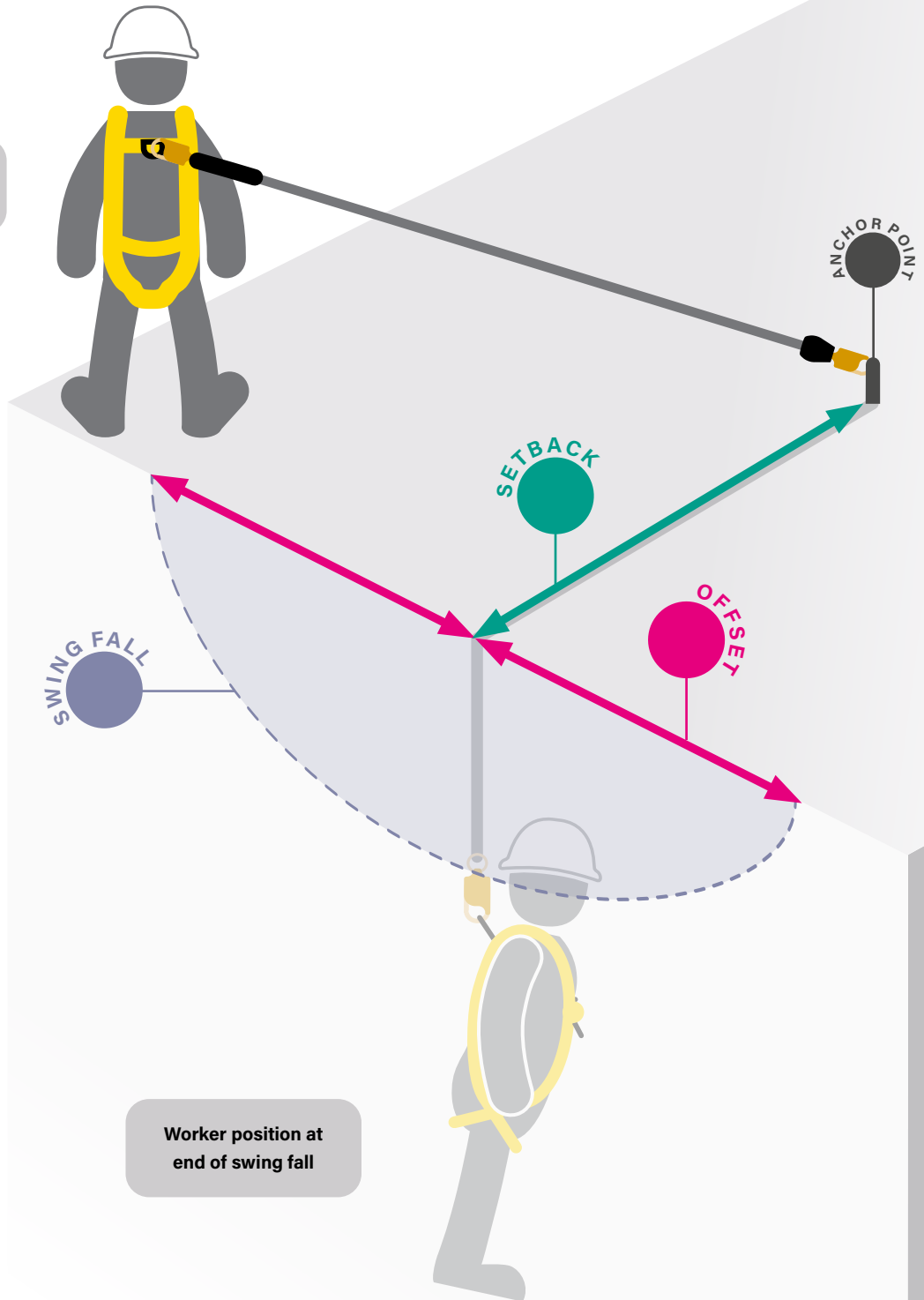
In the above table, **Setback** is the distance of the anchor point away the edge of the fall hazard.

Offset is the distance of the worker away from in-line with the anchor point.

Leading Edge designation is not intended for fall clearance calculations, but rather for appropriate equipment selection.

Anchor Point: At Foot-Level

Worker position
at start of swing fall



Worker position at
end of swing fall

The diagram above and the table opposite are for calculation reference only and do not promote the use of any particular type of equipment. All equipment choices must be approved for use by a competent person.

Anchor Point: At Foot-Level

Additional Clearance Required Due to Swing Fall (ft)

Setback (ft)	Offset (ft)											
	0	2	4	6	8	10	12	14	16	18	20	22
50	0.0	0.0	0.2	0.4	0.6	1.0	1.4	1.9	2.5	3.1	3.9	NO
48	0.0	0.0	0.2	0.4	0.7	1.0	1.5	2.0	2.6	3.3	4.0	NO
46	0.0	0.0	0.2	0.4	0.7	1.1	1.5	2.1	2.7	3.4	NO	NO
44	0.0	0.0	0.2	0.4	0.7	1.1	1.6	2.2	2.8	3.5	NO	NO
42	0.0	0.0	0.2	0.4	0.8	1.2	1.7	2.3	2.9	3.7	NO	NO
40	0.0	0.0	0.2	0.4	0.8	1.2	1.8	2.4	3.1	3.9	NO	NO
38	0.0	0.1	0.2	0.5	0.8	1.3	1.8	2.5	3.2	NO	NO	NO
36	0.0	0.1	0.2	0.5	0.9	1.4	1.9	2.6	3.4	NO	NO	NO
34	0.0	0.1	0.2	0.5	0.9	1.4	2.1	2.8	3.6	NO	NO	NO
32	0.0	0.1	0.2	0.6	1.0	1.5	2.2	2.9	3.8	NO	NO	NO
30	0.0	0.1	0.3	0.6	1.0	1.6	2.3	3.1	4.0	NO	NO	NO
28	0.0	0.1	0.3	0.6	1.1	1.7	2.5	3.3	NO	NO	NO	NO
26	0.0	0.1	0.3	0.7	1.2	1.9	2.6	3.5	NO	NO	NO	NO
24	0.0	0.1	0.3	0.7	1.3	2.0	2.8	3.8	NO	NO	NO	NO
22	0.0	0.1	0.4	0.8	1.4	2.2	3.1	NO	NO	NO	NO	NO
20	0.0	0.1	0.4	0.9	1.5	2.4	3.3	NO	NO	NO	NO	NO
18	0.0	0.1	0.4	1.0	1.7	2.6	3.6	NO	NO	NO	NO	NO
16	0.0	0.1	0.5	1.1	1.9	2.9	4.0	NO	NO	NO	NO	NO
14	0.0	0.1	0.6	1.2	2.1	3.2	NO	NO	NO	NO	NO	NO
12	0.0	0.2	0.6	1.4	2.4	3.6	NO	NO	NO	NO	NO	NO
10	0.0	0.2	0.8	1.7	2.8	NO	NO	NO	NO	NO	NO	NO
8	0.0	0.2	0.9	2.0	3.3	NO	NO	NO	NO	NO	NO	NO
6	0.0	0.3	1.2	2.5	4.0	NO	NO	NO	NO	NO	NO	NO
4	0.0	0.5	1.7	3.2	NO	NO	NO	NO	NO	NO	NO	NO
2	0.0	0.8	2.5	NO	NO	NO	NO	NO	NO	NO	NO	NO
0	0.0	2.0	4.0	NO	NO	NO	NO	NO	NO	NO	NO	NO

Allowable
 Leading Edge
 Not Allowable

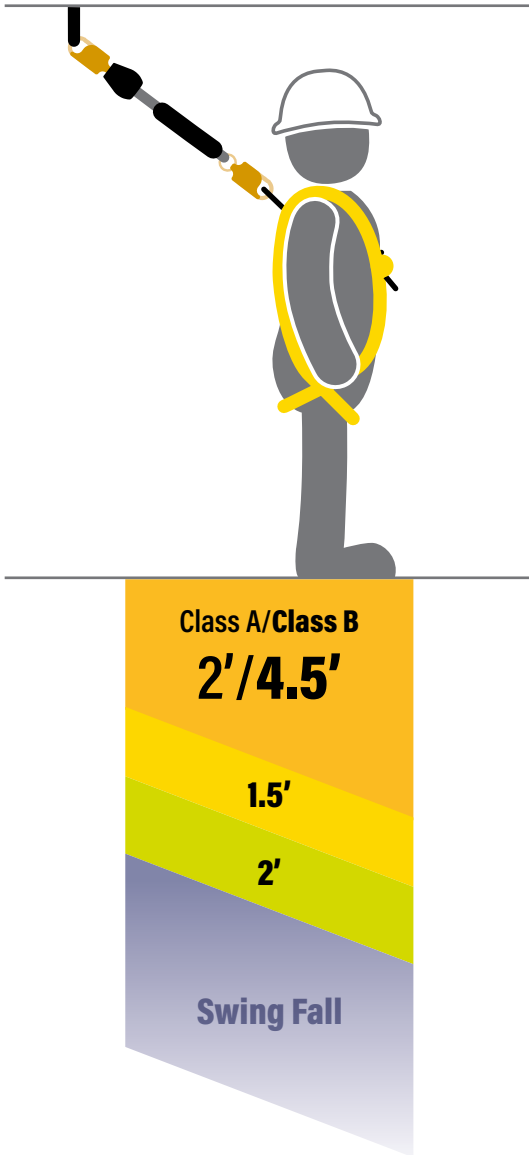
In the above table, **Setback** is the distance of the anchor point away the edge of the fall hazard.

Offset is the distance of the worker away from in-line with the anchor point.

Leading Edge designation is not intended for fall clearance calculations, but rather for appropriate equipment selection.

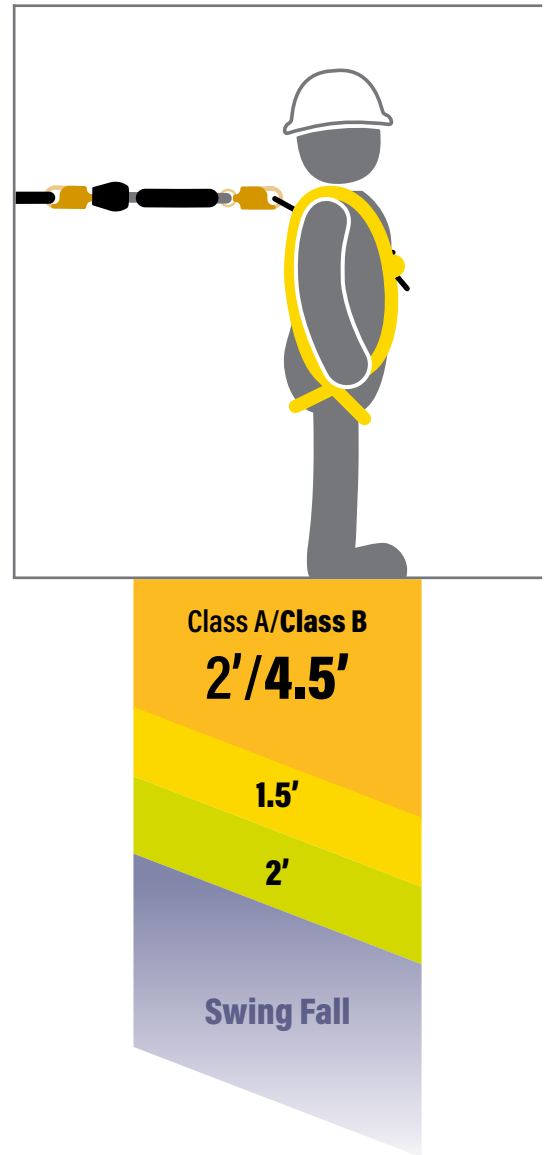
Self-Retracting Lifelines Fall Clearance

Anchor Point:
Above Dorsal D-ring



Refer to anchor point height charts to determine if application is Leading Edge.

Anchor Point:
Level with Dorsal D-ring



Refer to anchor point height charts to determine if application is Leading Edge.

- Free Fall
- Maximum Arrest Distance
- Harness Stretch
- Safety Factor
- Swing Fall

Anchor Point:
At Foot-level



Refer to anchor point height charts to determine if application is Leading Edge.




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Calculator

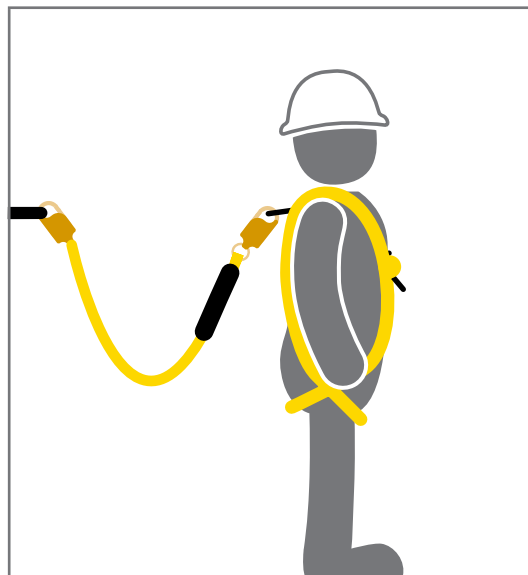
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Lanyards

Fall Clearance

Anchor Point:
Level with Dorsal Ring



- Free Fall
- Maximum Arrest Distance
- Harness Stretch
- Safety Factor
- Swing Fall

Refer to anchor point height charts to determine if application is Leading Edge.

Anchor Point:
At Foot-level



Refer to anchor point height charts to
determine if application is Leading Edge.



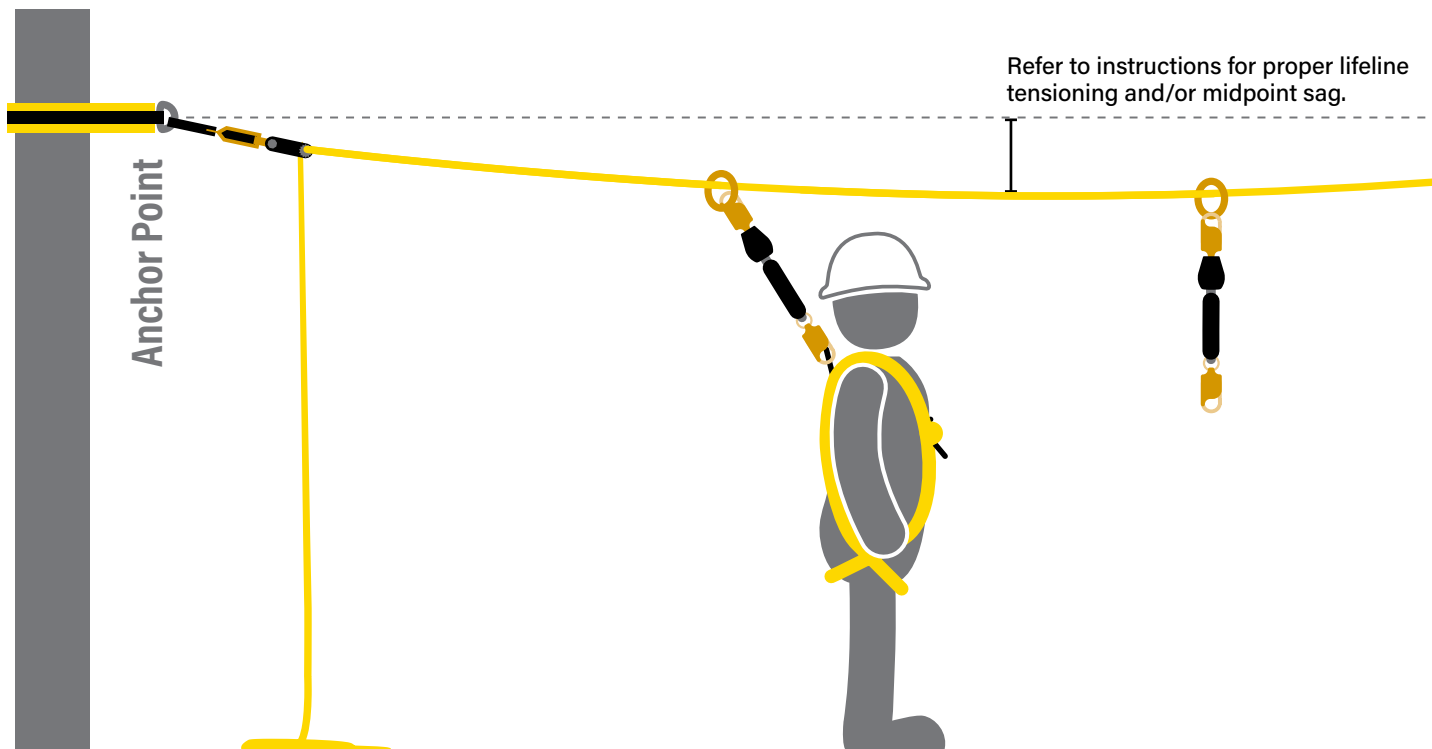

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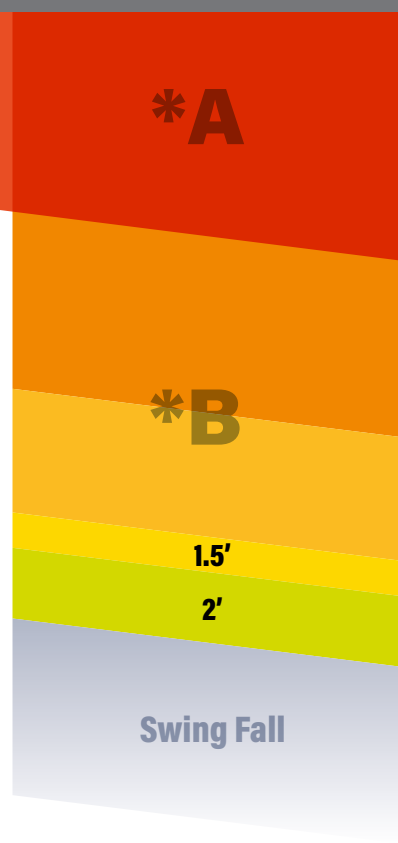
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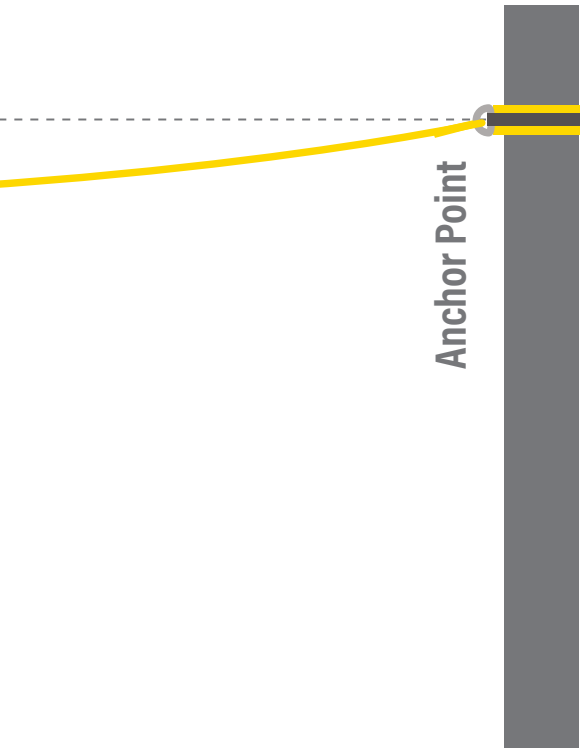
Horizontal Lifelines Fall Clearance



***B - Free Fall and Maximum Arrest Distance** clearance requirements will be based on connecting device used in combination with horizontal lifeline. Refer to specific connecting device product instructions.

- Lifeline Deflection
- Free Fall
- Maximum Arrest Distance
- Harness Stretch
- Safety Factor
- Swing Fall





Anchor Point

*A - Refer to product instructions for span length and **Lifeline Deflection** data.




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