

Safe Tech is the culmination of a harness safety campaign that has been almost 10 years in the making. There has been an alarming number of accidents or near accidents involving the misuse of harnesses and/or the failure of “non-structural” harness components. Beginners were often involved in these accidents, but a surprisingly large number of incidents involved experienced climbers who made life-threatening mistakes through fatigue, trying to move too fast, darkness, or a simple lapse in concentration. We became convinced that redesigning our harnesses with every possible extra margin of safety in mind would save lives. Safe Tech is the result.



After hearing the stories of climbers who attached their waist belts with the Velcro™ closure, then got distracted and forgot to thread the buckle, we eliminated the Velcro™. The Safe Tech harness won't stay on unless you thread the waist buckle.

We heard (and witnessed) numerous accounts of climbers incorrectly using the haul loop to attach themselves to belay anchors. We also heard stories of climbers making various fatal errors and falling to the ends of their haul lines. A few lucky ones were saved by the full-strength haul loop on their harnesses. Safe Tech haul loops are rated to 3600 lbf - as strong as the front tie-in points!



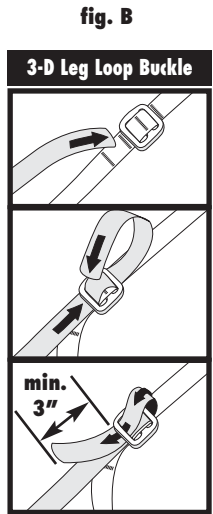
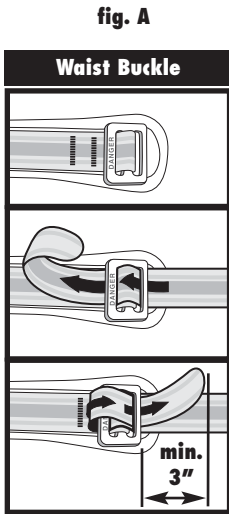
Everyone who has spent much time climbing has seen or heard about someone forgetting to double-pass his or her harness buckle, often with catastrophic results. Safe Tech webbing shows a different color pattern when correctly double-passed. The Safe Tech waist buckle shows the word “DANGER” if not correctly double-passed. If you ever happen, despite the visual cues, to forget to double-pass the Safe Tech waist buckle, it will still hold 2250 lbf! Never deliberately climb with any of your Safe Tech buckles single-passed!

Stories of gear loop failures are commonplace. Usually it's just gear that's lost, although we've heard stories of dazed and exhausted climbers on long descents mistaking a sling hanging from a gear loop for the anchor sling through the tie-in points. They clip-in with the wrong sling, lean back, and go for the ride. Safe Tech Spectra gear loops hold 2250 lbf.

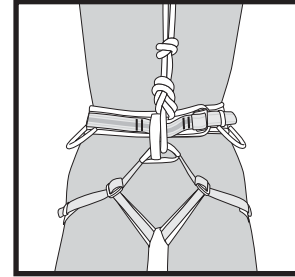


We saw so many cases of the rope, carabiner, or belay loop routed incorrectly through the harness tie-in points that we were convinced that the tie-in points must be designed to maintain their strength even if used incorrectly. A combination of Spectra rope locator and carefully engineered construction yields strong, non-directional tie-in points - even if they're not threaded correctly!

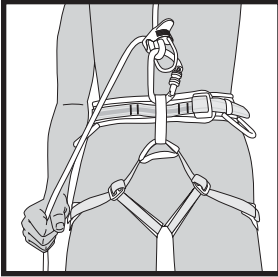
Many accidents and injuries are the result of awkward falls where the climber flips upside down. A correctly fit harness that is fine-tuned to your particular physique will keep you upright and in balance in a fall. That's why we designed the patented 3-D system to adjust waist, legs and rise, giving you maximum safety and support.



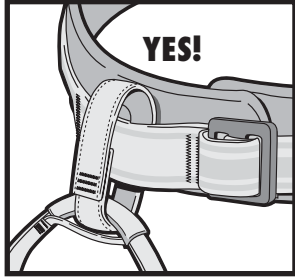
**Threading the Safe Tech Waist Belt and Leg Loop Buckles**  
The Safe Tech Harness employs a double-pass buckle system. ALL BUCKLES MUST BE THREADED EXACTLY AS SHOWN ABOVE. FAILURE TO DOUBLE-PASS ANY BUCKLE CORRECTLY CAN RESULT IN SERIOUS INJURY OR DEATH! There should be a minimum of three inches (8 cm) of webbing sticking out past the edge of the double-passed buckle. When the waist belt buckle is threaded correctly, the word “DANGER” will be covered up on the buckle and the webbing will show a different color pattern where it passes through and exits the buckle.



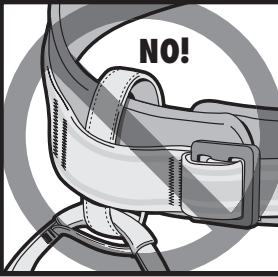
**Tying in**  
TIE INTO THE HARNESS EXACTLY AS SHOWN ABOVE. FAILURE TO TIE IN CORRECTLY CAN RESULT IN SERIOUS INJURY OR DEATH! Make sure to run the rope through both the waist belt and the leg loop tie-in points. The rope should pass through the same points as the belay/rappel loop. Never tie into only one of the tie-in points. The waist belt and leg loop tie-in points must always be used in conjunction. Never tie into the belay/rappel loop itself or a locking carabiner. The type and quality of knot you tie are your responsibility! Seek qualified, professional instruction if you are in any doubt about how to tie into your harness. Before starting any route, before lowering off or rappelling, and frequently throughout the day, re-check to see that you are properly tied-in and that all buckles are double-passed!



**Belaying, Rappelling, and Clipping into Anchors**  
To belay, rappel, or clip into anchors with the Safe Tech Harness, merely clip a locking carabiner into the belay/rappel loop located in the front of the harness as shown above. NEVER ANCHOR INTO, OR BELAY OR RAPPEL FROM THE REAR HAUL LOOP, GEAR LOOPS OR ANY POINT ON THE HARNESS OTHER THAN THE BELAY/RAPPEL LOOP OR THE TIE-IN POINTS. CLIPPING INTO ANY OTHER POINT ON THE HARNESS CAN RESULT IN SERIOUS INJURY OR DEATH!



**Belay/Rappel Loop**  
MAKE SURE THE BELAY/RAPPEL LOOP IS ROUTED CORRECTLY THROUGH THE TIE-IN POINT ON THE HARNESS WAIST BELT, EXACTLY AS SHOWN ABOVE. FAILURE TO POSITION THE BELAY/RAPPEL LOOP CORRECTLY CAN RESULT IN SERIOUS INJURY OR DEATH! It is possible for the buckle end of the waist belt to invert through the belay/rappel loop while the waist belt is unbuckled. If this happens, the belay/rappel loop will be routed through the non-structural, padded portion of the waist belt, not through the structural tie-in point. If subjected to a sufficient load in this incorrect configuration, the harness can fail. If your belay/rappel loop becomes incorrectly positioned in the above manner, simply unbuckle the harness and push the buckle-end of the waist belt back through the belay/rappel loop. The belay/rappel loop should also pass inside the rope locator on the leg loop tie-in point as shown above.



**Care and Maintenance**  
Under normal usage, a Safe Tech Harness has about the same life span as a climbing rope. Keep your harness away from any corrosive substances or solvents. Acids are exceptionally bad for harnesses and other nylon climbing equipment. Even fumes from a car battery can reduce the strength of your harness dramatically. If your harness comes into contact with any corrosive substances or solvents, retire it immediately. Store your harness in a cool, dark, well-ventilated area. Inspect your harness after each use for signs of damage. Retire the harness if it is damaged, after a severe fall, or five years from the manufactured date on the harness “DANGER!” label. Even though your harness may show no

significant signs of wear, the nylon will deteriorate with the passage of time. If in doubt, send it to Metolius for inspection. Destroy retired gear to prevent any possibility of further use. Never alter, modify or repair your harness in any way.

## WARNING

- This guide does not replace proper instruction by a qualified professional.
- Failure to follow all of these warnings increases the risk of serious injury or death.
- Climbing and mountaineering are inherently dangerous.
- You are responsible for your own actions and decisions.
- This product is designed for climbing and mountaineering use only.
- Special knowledge and training are required to use this product.
- Always double-pass the waist belt and leg loop buckles.
- Always tie in correctly and recheck your knot repeatedly throughout the day.
- Never tie or clip into only one of the tie-in points. The waist belt and leg loop tie-in points must always be used in conjunction.
- Never anchor into, or belay or rappel from the rear haul loop, gear loops or any point on the harness other than the belay/rappel loop or the tie-in points.
- Make sure the belay/rappel loop is routed correctly through the harness tie-in points.
- If you become seriously injured or unconscious, this harness will NOT keep you in an upright position unless used with a chest harness.
- Always know the maintenance and use history of your climbing and mountaineering equipment. The use of secondhand equipment is strongly discouraged.

**If you do not completely understand any of the above or if you have questions, contact Metolius at (541) 382-7585 or [info@metoliusclimbing.com](mailto:info@metoliusclimbing.com)**

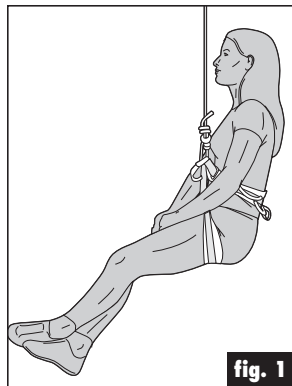


fig. 1

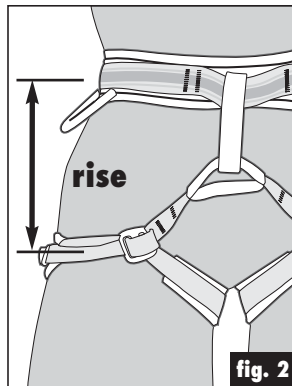


fig. 2

### Fitting Your Harness

Safe Tech Harnesses employ the patented 3-D system. 3-D refers to the 3 critical dimensions that must be matched to your body in order to achieve a good harness fit: waist size, leg size, and rise length.

A properly fit harness should have you hanging comfortably, in an upright position, with most of your body weight (approximately 70 – 80%) supported by the leg loops while the waist belt supports your lower back and keeps you in balance (fig. 1). Waist belt and leg loop sizing is fairly intuitive. Rise adjustment, however, is not so obvious, yet its accuracy is critical. In fact, rise is the single most important factor in achieving a comfortable fit. Rise is the distance between the waist belt and leg loops (fig. 2). It determines how much of your body weight is taken by the waist belt vs. how much is taken by the leg loops. If the rise on your harness is too short for your body, too much of your weight will be on the leg loops and you could be flipped upside down in a fall. If the rise on your harness is too long for your body, too much of your weight will be taken by the waist belt, and it will be pulled up into your ribcage in a fall, making it painful and dangerous. A well-fitting rise is essential to the comfort and safety of your harness.

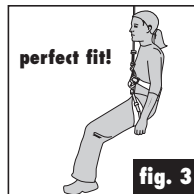
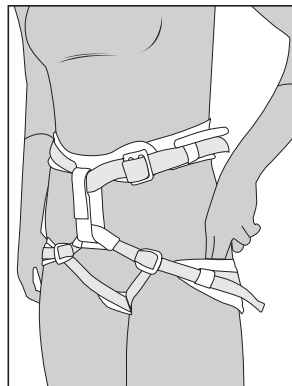
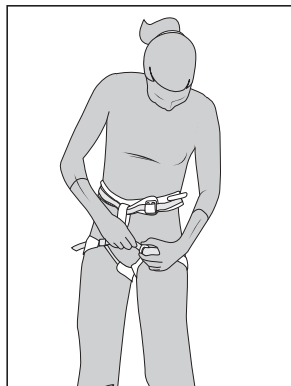
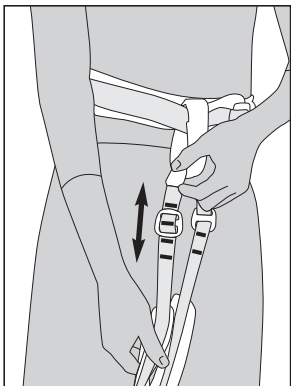
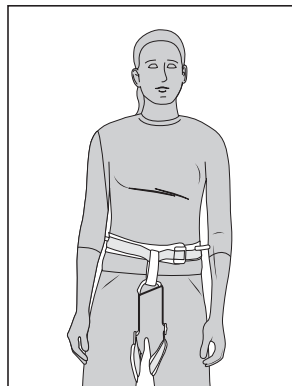


fig. 3

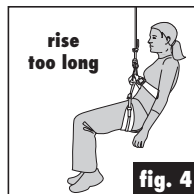
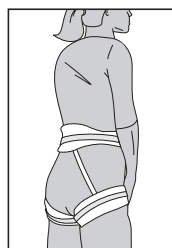


fig. 4



fig. 5

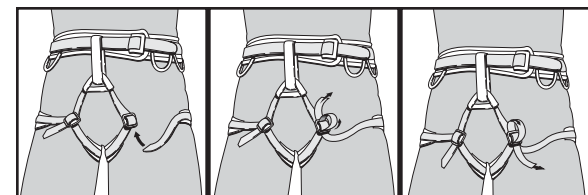


Now find someplace from which to hang in your harness. Make sure it is a secure anchor where you can hang freely (not against a wall). The goal is to be hanging in a comfortably upright position with most of your weight supported by the leg loops while the waist belt keeps you upright and in balance (fig. 3).

If the waist belt is riding up uncomfortably under your ribcage or if it just feels like too much weight is on your waist, the rise is too long (fig. 4). Unthread the 3-D leg loop buckles and slide them upward on the leg loop riser toward the tie-in point. Rethread the buckles as before and repeat the hanging test.

If you are fighting to keep from flipping over or if it feels like too much weight is on your legs, the rise is too short (fig. 5). Unthread the 3-D leg loop buckles and slide them downward on the leg loop riser away from the tie-in point. Rethread the buckles as before and repeat the hanging test. It may take several adjustments to fine-tune your rise, but it is worth it. The result will be the most comfortable harness you have ever climbed in!

Finally, adjust the elastic/webbing straps on the back of your leg loops. The straps should be adjusted so that, when you are standing or climbing, they hold the leg loops in the same position that they would be in when you are hanging. If the straps are too loose, the leg loop can drop too low on your leg. When you suddenly fall or weight the harness, it will be uncomfortable or could even flip you over. If the straps are too tight, they can impede your movement.



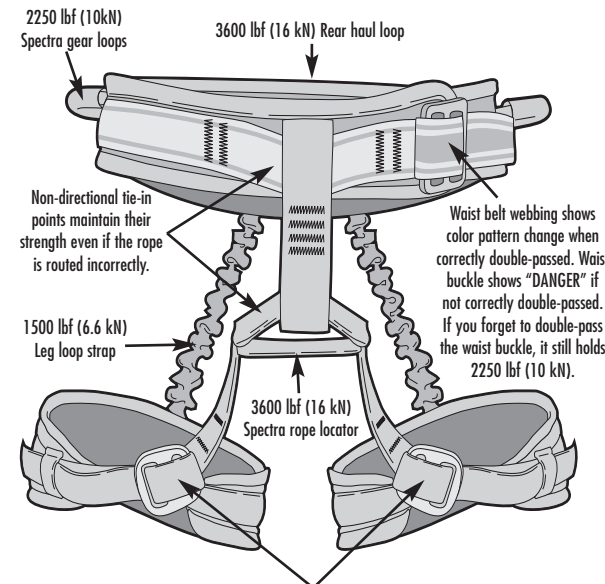
**Be sure to double-pass both 3-D leg loop buckles!**

**These fitting instructions are guidelines only. You are personally responsible for fitting and using your harness correctly. If in doubt, contact Metolius at (541) 382-7585 or [info@metoliusclimbing.com](mailto:info@metoliusclimbing.com).**

## METOLIUS

### Safe+Tech Climbing Harnesses

Safe Tech Harnesses are engineered to provide every possible extra margin of safety. Each component has been designed for maximum strength without excessive weight or bulk. Wherever possible, each component is engineered to withstand a load of 2250 lbf (10 kN). This is typically the maximum impact force rating of a modern climbing rope. All structural systems of the harness have been made as redundant and error-proof as possible.



The patented 3-D system adjusts rise length and leg size to keep you upright and in-balance in a fall.