

Fitting a Backpack

Adjusting your backpack for the best fit

Even the best backpack isn't comfortable if you don't fit and adjust it correctly. Start by choosing a pack that's the proper gender and/or general size for you. You should do an initial fit adjustment of your pack at home before trying to fool with it on the trail. Familiarize yourself with what can be many straps, belts and buckles of various sizes and functions on the pack. Some are for fitting adjustments, some are compression straps to reduce the size of the bag to fit the load inside, and others are for attaching gear or other bags on the outside. Our interest here is in the fit adjustment straps.

Your first adjustment should be a tweak to the torso length settings. Most packs are designed to fit torsos within a range of 2-3 inches, and are adjustable within that range. See the article on [finding your torso length](#). How to then fine tune that torso adjustment varies from model to model, and is included in the provided manuals. Most adjust where the straps are attached to the body of the pack. The torso straps adjustment is best done with the pack off and empty.

Check the Torso Adjustment Length

The shoulder straps should wrap over your shoulders and there should not be any gaps between the top of your shoulders and the shoulder strap. The shoulder straps should attach to the pack a tiny bit below your shoulders, not above or too low below the shoulders. In general, the top of the shoulder strap harness should be about at the base of your neck... near the largest backbone at the top of your spine/base of your neck.



Torso Adjustment is Too Long - You can tell the adjustment is too long because the harness will be above the base of your neck and there will be gaps under your shoulder straps. The top of the pack will also be more "unstable" when you walk because you do not have the proper contact with your shoulders and your shoulder straps.

Torso Adjustment is Too Short - You can tell the adjustment is too short because the harness will be well below the base of your neck and the ends of the padded shoulder straps will be closer to your arm pits than being closer to your waist belt. While this "Too Short" adjustment is better than being adjusted "Too Long", you'll quickly become tired when hiking because you'll be carrying almost the entire load on your shoulders and not enough on your hips.

Once the torso adjustment is done, add at least 20 or 30 pounds of weight inside the pack that is comparable in volume to what you will be carrying. That is, don't just throw in a 25-pound barbell plate into it as "pretend" weight. Distribute your gear or dummy contents throughout the pack. Also note that if you carry substantially more weight in a pack than it is designed for, the pack frame or suspension may sag and no amount of adjustment will make it comfortable.

Loosen all of the adjustable straps and hip belt and hoist the pack onto your back. To best make the final adjustments, you really need a friend or a mirror nearby to help spot anything out of kilter.

Tighten Waist Belt

Position the waist belt over your hip bones and fasten the waist belt buckle. Tighten the waist belt by pulling on the waist belt webbing. The waist belt should be snug. Make sure the final tightened waist belt is centered over your hip bones... which mean the waist belt buckle should be about over your belly-button.



Tighten Shoulder Straps

Cinch the shoulder straps down tightly and then loosen them just slightly. Tighten the shoulder straps by pulling down on the lower shoulder strap webbing. They should be tightened so that you feel some (not all) of the pack weight being shifted to your shoulders from your waist belt. Look sideways in a mirror or have your friend check the position of your shoulder straps. Shoulder straps should anchor to the backpack about one inch below the crest of your shoulders. The buckle on the strap should be far enough below your armpit that it won't chafe. The straps should be far enough apart that they don't squeeze your neck, but close enough together that they don't slip off of your shoulders during hiking.

Minor Adjustments

Now that the Torso Adjustment is correct and you have the waist belt and shoulder straps properly tightened you're ready for your final minor adjustments.

Load Lifter Straps

These are the webbing straps that leave the top of your padded shoulder straps and fasten to a "Ladder Lock" buckle on the back of your pack. These should attach to your shoulder straps at a point just above your collarbone and just below the top of your shoulders. The goal is to have the webbing form about a 45 degree angle with the top of your shoulders. If the angle is too much larger than 45 degrees, meaning the buckle is too high; the Load Lifter Straps will pull your padded shoulder straps off of your shoulders. If the angle is too small (the buckle is too low) you won't be able to pull the top of the pack toward you, which means the top of the pack will be a little more unstable as you walk and your shoulders will carry too much of the load. Check for a good torso fit. If the hip belt is on tight, the shoulder straps should be just resting on the top of your shoulders. You can then redistribute the weight of the pack between your shoulders and your hips simply by loosening and tightening your shoulder straps slightly.



Anti-Sway Straps These are the webbing straps on the outside of your padded waist belt that attach to the lower part of your pack bag (one on each side of your waist belt). When properly tensioned, these Anti-Sway Straps do exactly what their names says... they keep the pack from swaying back and forth as you walk.



Sternum Strap The most "out of order" adjustment is the Sternum Strap. A lot of people like to make this the first buckle they fasten and adjust when it should be the last. The Sternum Strap can sometimes make quite a difference in how your pack fits, carries, and feels, but it really is best to adjust it after you've finished with the other steps mentioned above. Adjust the sternum strap so it is about 2" below your

collarbone. You should be able to breathe comfortably when the strap is fastened. Sternum straps are meant to keep your shoulder straps from sliding off your shoulders under a load. They are not meant to support weight and should never be pulled tightly enough across the chest so as to restrict breathing. In addition to keeping the shoulder straps from sliding off of your shoulders, the Sternum Strap is also useful in letting you slightly "reposition" your shoulder straps during your hike. After walking and hiking for several hours and you notice the shoulder straps are "rubbing" your shoulders near your arm pits, tighten the Sternum Strap to pull the shoulder straps further "in". If you walk another hour or so and notice you now would like to have the shoulder straps ride a little wider, loosen the Sternum Strap slightly. The key is to stay comfortable, and the Sternum Strap can be really helpful in keeping your shoulder straps in the most comfortable spot.

Finally, walk around for a few minutes with the loaded pack. Lean forward and sideways; bounce around a bit; walk some stairs. Note the weight shift within the pack and on your back. If you fall over, adjustments are needed! The pack may well feel heavy; that's part of it. But, you should have reasonably unrestricted movement. There should not be pinching anywhere. You should be able to stand upright without hitting the pack with your head.