



How to fit a backpack

Finding the right fit of backpack for your customer is as important as finding a hiking boot that fits comfortably. If you sell your customer a backpack that does not fit correctly, they will not easily forget you, or their next hike, as it might turn out to be a ride from hell.

Once you've asked the obvious questions like what the pack will be used for, the length of the trip or hike, and how much weight he expects to carry in the pack, you'll know what type of backpack to recommend (e.g. daypack, travel pack, hiking pack, etc.) you have to find the pack within that category that will fit most comfortably on your customer's back.

The size of a backpack is often affected by the maximum weight that a person intends carrying. Most agree that one should not exceed 20-25% of the person's total body weight. When planning long walks, women should limit themselves to a 70L bag, while the maximum size for men should be 80L.

Measure the torso

You'll need a tape measure on hand to sell backpacks. Just because your customer is a human lighthouse of 2m, does not necessarily mean that he automatically needs a tall pack – he might have a short torso, and long legs. There is often no correlation between height and the length of a person's back, and hence the size of the pack your customer will need.

Therefore, you need to measure to fit the right size pack to the right back length.

- Find the 7th vertebrae, the largest bump on the back of your customer's neck. Ask him to place his hands in his waist. The point on his lower back that is horizontal with his thumbs (the top of the hipbones) is the iliac crest.
- The quickest way is to hold the backpack up to your customer's back with the hip belt level with the hipbone or iliac crest. The top of the correct size backpack should not proceed more than 5cm past his shoulder height, or lower than 10cm below shoulder height.
- A more accurate way is to measure the back length between the seventh vertebrae and the iliac crest. Then find the pack that will be suitable for your customer's torso length, according to the manufacturer's sizing charts.
- Backpack sizes vary from one manufacturer to the other, but a general guide is that a customer with a back length of 40-47cm will qualify for a small pack, if the length of his back is between 46-52cm, a medium

A cut-out-and-keep feature providing step-by-step information on fitting a backpack.

Words: FANIE HEYNS. Compiled with information supplied by Matt Tibenham of Drifters Extreme Sport, Chris Mostert of Leotana Buitelewe, Richard Turkington of Trappers, Evan Torrance of Cape Union Mart and Simon Larsen of Ram Mountaineering.



- should be a perfect fit, and if the measurements read between 51-57cm, recommend a large backpack. If the manufacturer classified the packs as short, tall or regular, a back length of 38-46cm will be short, 46-51cm regular and 48-56cm tall.
- If you find that your customer's torso is on the border between two sizes, go with the larger size. For example, if his torso is 46cm long, recommend the medium because you'll have more room to make adjustments. Most good packs allow for that.
 - It might be a good idea to keep some stuffing on hand to place in the pack when fitting and adjusting the straps and belts for your customer. Also encourage him to walk around the store – ideally go up and down ramps and stairs – to test if the pack feels comfortable.

Fit the hip belt

- Ensure that the hip belt is in the correct position: on top of the waist, where it will carry the bulk of the pack's weight. Make sure your

customer's hipbone is centered under the belt and the lumbar pad centered over the iliac crest and pressing firmly into his lower back.

- When the hip belt is properly positioned and tightened, the ends of the pads should extend at least 3 inches past the hip crest. This is to ensure even weight distribution around the entire pelvic structure. It is not unusual to have a hip belt fit so that there is very little extra webbing between each pad and the buckle. This is okay as long as the hip belt is properly positioned and tensioned.
- If your customer is planning to use his pack in the winter, make allowance for bulky clothing that will be worn under the hip belt.

Check the shoulder straps

- The padded sections of the shoulder straps should comfortably wrap around the crest of your customer's shoulders and attach to the frame about 2cm below that point. No gaps should appear.
- Make sure that the shoulder harness doesn't get in the way when he swings his arms or have buckles that pinch the skin. The yoke (the place where the shoulder harness comes out of the pack) should be about 5cm below his 7th vertebrae.
- The buckle on the shoulder strap should be far enough below your customer's armpit that it won't chafe. The straps should be far enough apart that they don't squeeze his neck, but close enough together that they don't slip off of his shoulders during hiking. The width is sometimes adjustable.
- You need to pay special attention to the fit of shoulder straps for women. On some unisex packs, the distance between the shoulder straps may be too wide, or the straps themselves are so wide that they gouge an armpit or breast. If you find a good fit is elusive, recommend a pack designed specifically for women.
- The load-lifter/top tension straps should attach to the shoulder straps at a point just above his collarbone and just below the top of his shoulders. From there, they should rise up to join with the frame at an angle of between 40 and 50 degrees. If the angle is higher than that, the pack frame is too long. Any lower and his shoulders will carry too much of the load.

Also see www.backpacking.net, www.trailspace.com, www.adventuresportsonline.com, www.trailstobuild.com, www.black-diamondequipment.com.