



There are many reasons offered by hikers when asked why they bought a backpack. Listen carefully and you'll hear about the great outdoors, the absence of TV and telephone, the camaraderie and etc. Truthfully, unless you have a particular desire to feel like you're carrying a bowling ball with straps, you must purchase a backpack to fit. Everything comes secondary to that !

All packs are comfortable, in the store, empty. When fitting a pack, load it to approximate weight. Good stores will have artificial weights for this purpose. Use them. If the sales folks are not right there helping you to adjust the pack and fit it to your very own body, go somewhere else.

Do not expect a perfect fit in twenty minutes. Be patient. It may take weeks to get the pack *exactly* right for you. Full adjustability improves the initial fit and allows refining of the fit as you get accustomed to the pack and as you, yourself, get fit.

Don't just walk around the store looking like a dummy. Hop up and down, do some twisting. Try the pack on wearing a "T" shirt, then a heavy shirt and jacket. How does it perform - how does it adjust? Adjustability is vital. Your weight changes with the seasons, from winter couch potato with many holiday meals, to summer slim and fit. The amount of clothing you wear varies with the seasons and with the time of day.

If the store is two storied, wear the loaded pack up and down the stairs. Ask the sales person if you can go around the block or all over the mall (they may want a driver's licence or credit card for insurance - talk to them.). Get a feel for that thing you'll soon know by its first name of @\$%&*!

Does the pack move with you or flop around? Are adjustments easy? Does it ride nice and close, or try to pull you over backwards? If there is a cross bar, does it hit you in the back of the neck or knock your rain hat off? Is the back padding in the right place? Does it have big, tough zippers that will stand up to being forced, when you overload and overstuff it for the umpteenth time?

Do strap positions move up (long torso), down (short torso), in (narrow shoulders) and out (wide shoulders)? What shape are you? Are shoulder straps and hip belt adequately padded? Does the hip belt wrap all the way around, not just half way?

Does the pack have compression straps? These keep the pack tight as you consume food and when you do not fill the pack to capacity. Does the pack have easily replaceable and repairable hardware (rings and pins), or do you need to carry a welder if something breaks on the trail?

Is the pack a top loader or a front loader? You have to remove the sleeping bag or tent from an external frame and dig deeper to

find what you want in a external frame or internal frame top loader. A front loader must be leaned back or be laid down to load properly. Zippers on a front loader must be tough - they'll get a lot of use. A top loader needs a good seal (pull string snow cuff) to keep out rain and snow. Some top loaders have a hold-open bar which can be an aid or a bother.

Are the pockets the right size for your things? Do you want a camera here, a windbreaker and eye glasses up here? Is there a place for your one or two-liter water bottle where it will be handy? Is there a spot for the size water bladder you use, and will the tube reach your mouth? Can you get your hands in the pockets to reach small things like a film? Do the zippers work both directions? Do the zippers have weather flaps? Do the zippers do two sides of each pocket?

Some pockets come off and double as a fanny pack. When wearing pocketless running shorts, a miniature pocket added to the hip belt or shoulder strap is great for lip balm or a kerchief. If adding a mini-pocket to a shoulder strap, put it on the strap you put on first. Otherwise, it may get in the way when putting on the pack.

Do you need extra room in the pack to carry gear for little ones? Is the pack accommodating - can you put your tent or sleeping bag inside the external frame pack in the summer and, when you carry more stuff in the winter, lash it on the outside?

Some packs offer handy lashing spots for adding things on the outside of your pack. On an external frame pack, is there a good place for the tent, sleeping pad, and sleeping bag. Is there a place to lash ski poles, loppers, or other trail maintenance tools? But be careful - you do not want things hanging all over your pack to pull you this way and that, or to catch on brush !

Your weight and shape will vary; from overweight, after a do-nothing winter, to fit and trim later on; from starving before a meal to bulging after eating; from summer lightweight duds to winter layering.

Make sure the pack and all its straps and belts easily and readily adjust to all these changes. Adjustments while hiking should take but one hand, the other will be filled with GORP, a camera, or a walking stick.

You lean forward going uphill - loosen shoulder straps to maintain the center of gravity. You lean backwards going down hill - tighten shoulder straps to maintain center of gravity.

From time to time, as a change of pace, you may want to shift weight from the hips to the shoulders and back by working the hip belt and shoulder straps or lifters. Most weight should be on your hips. Weight on the shoulders tends to compress the spine - not good.

Check pack put-on-ability and take-off-ability. You will have it on and off several times a day for breaks, to get or put away a sweater, jacket or film, meals, water, or just because. Loosen shoulder straps and hip belt before doffing the pack - this makes it easier to put back on. A loosened shoulder strap will not catch as easily on your watch or shirt sleeve when you put the pack back on.

Make sure you add a piece of cord or shoelace to each zipper pull. When it's cold, dark and wet, you can operate zippers without removing gloves. Also, do this to your tent door zippers, and to jacket zippers

Although some TATC folks are 2,000-milers, and others go for a week or more at a time, most hikes are for only 2 to 3 nights. You leave Friday and come back Sunday, or Monday if you have that for a holiday. You are normally not more than a day and a half from your car, often less.

You should plan to carry not more than 1/5 to 1/4 of your body weight. A person in fine physical condition may, but not necessarily should, go up to 1/3 of body weight. Your pack will naturally be a bit heavier in cold weather due to extra clothing, food, and stove fuel. When doing trail maintenance, you may be carrying tools and extra water.

Before you buy, try to rent or borrow a pack of the type you might purchase. You do not buy a car without a test drive. Do the same with a pack. If you see someone in your group wearing a pack you might like on the trail, ask if you can swap and wear that pack for an hour or more to get its feel. Don't buy reputation; don't buy brand name; buy a good fit. Visit our local outfitters for good advice **and** a good fit.

There are packs made for the different body structure of the ladies. Refer to the annual Backpacker Magazine Gear Guide (the March issue that hits the news stands in February).

Most likely, if a Kelty fits a JanSport probably will not, and visa versa.

A good pack should fit like a tailor-made suit and be driven like a fine sports car. When you look at the pack's price, divide the price by ten. That will give you the cost of the pack per year over a ten year period. A good pack should last you much longer than ten years ! Do the same with boots, tent, sleeping bag and other items you think expensive. Looked at in this light, the difference between a quality pack and the other kind is negligible.

SOME PACK PARTS

Hip Belt - Should be on, not around hips; puts weight on simple, strong and well muscled hip and leg structure; need full circling belt, not one that comes from sides of pack; if it bothers you at all within an hour it'll really bother you by nightfall; should contour and not be a stiff band; should fit snugly around top of hip and not catch legs when stepping uphill.

Shoulder Harness - Holds upper part of pack fairly close to body; makes pack move in harmony with body; upper anchor part should be even with top of shoulders; a cross from bottom left of pack to over right shoulder and right bottom of pack over left shoulder best but hard to find; load lifters are short straps which pull shoulder straps up and away from shoulders, join the frame at ear level and attach to shoulder straps just forward of shoulder crest, and should be at about a 45° angle.

Sternum Strap - Reduces shoulder fatigue by pulling shoulder straps inward; can be added to existing pack (secure with safety pins until you experiment and find correct placement, then have shoemaker stitch in place); it crosses the chest 2-3 inches above where chest expands the most. Sternum straps work.

Back Band - Preferable to have one 17 inches or so wide, but may have two narrower ones; keep slightly less than drum tight; provide some load support and back ventilation; absorbs shock. Lumbar pad on internal frame performs same function and transfers some load to small of back.

Tump Line - Generally found on a pack board or pack basket, rarely on a external frame or internal frame pack. It's a padded band from top or near top of pack around your forehead. Allows neck muscles to take part of load. Takes getting used to, but can be great. Still seen in third world countries to carry loads without packs.

PACK TYPES

There are three basic types of backpack; i.e., internal frame, external frame and luggage. Each has advantages.

External Frame:

Rides high and forward, transfers weight straight to hips which bear load, encourages upright walking posture reducing fatigue. Frame generally keeps pack bag off the ground.

High center of gravity can be a menace for climbers, skiers and orienteers.

Hard to load wrong, very forgiving. Easy to lash on odd shapes. More pockets, more compartments, more ventilation for your back.

Generally cost less and are more susceptible to damage on a plane or bus. Unload it and ship in a suit box. You can try wrapping your closed cell sleeping pad around the pack and stuffing the whole things in a gihugeous sea bag, with the metal frame on the side of the sea bag where the lifting handle is. In a front loading external frame, zippers 'may' be a weak point; make sure they are sturdy.

Internal Frame:

Fewer pockets, add-ons can add \$ to cost. Pack itself sits directly on ground. May average a bit heavier than an external frame.

Hugs your body tighter and provides a narrower profile. Good

for high action like skiing, bush whacking, orienteering. Allows the swing of ski poles. Hotter on your back.

Must be loaded very carefully, every day. Everything goes inside. Some can be fitted to your exact body shape. Fit, exact fit of hip belt, shoulder harness and internal framing is a MUST! Tend to fit the ladies better. The better it fits your body contours, the better it carries the load. Compression straps are more of a necessity and there may be 2 or 3 sets.

Pack bag should curve to fit the body, not a refrigerator. Generally cost more. Less likely to damage on a bus, plane. Less likely to cause damage to a car.

Luggage:

Luggage packs are combination backpacks and luggage. Part of the pack shifts to turn it into a piece of luggage. An item designed to do part of two jobs can do neither job as well as it should. Luggage is luggage; packs is packs !

PACKING THE PACK

Pack the same things in the same place, always ! That way you know where they are when it's dark and wet. Things like: matches, toiletries, candle lantern or flashlight, lines, compass, film, rain gear, 'necessary' paper, wind breaker, and medicines should have a permanent packing spot in your pack.

Put your map in a locking food bag, folded to show the day's hike. Use varicolored stuff sacks with different colors for toiletries, snacks, clothes, survival items, etc.

Your spine is the key to loading external frame and internal frame packs. If you pack too high, there is too much sway and you are top heavy. If you pack too low, your hips are unbalanced, making for an inefficient and exhausting stride.

In general a man should center weight between the shoulder blades, and a lady should center weight in the small of the back.

The foot of an internal frame should carry the sleeping bag to shape the bag and should not carry a heavy item to pull you down and back. Watch where you pack things that might poke you in the back.

When lashing on a sleeping pad, make sure the open flap of the roll points backwards so it does not catch on branches.

Tuck in all strap ends. Tuck in the pull string on your sleeping bag and on your pack flap. After taking a break, make sure all pockets are tightly closed and all straps tightened. Plan for the

next break. Have film, water and snacks or lunch where they can be reached.

CHILDREN'S BOOK BAGS

Refer to the TATC Education Handout titled: "BACKPACK PROBLEM - CHILDREN'S BOOK BAGS."

PROTECTION

Even though made of water resistant material, you will find that no pack is waterproof forever. Sooner or later your gear will get wet, unless you take steps to prevent this. There are a number of ways to keep your gear dry.

Camp only in good weather. Good weather for backpacking is any weather when you're not working at your normal job or yard duties.

A pack cover can be a big help, and should be bought for the particular pack you buy. The cover can protect just the pack (internal or external frame), or the pack (external frame) and the sleeping bag. A large leaf bag can substitute for this, one for the pack and one for the sleeping bag, but these will tear easily on branches.

Things inside can be packed in ready-made stuff sacks (not all are waterproof). Different colors can be coded for identifying contents. Heavy duty, locking food bags offer both protection and visibility. One large heavy duty bag, like a leaf bag, can be used as a liner inside each main pack compartment, and will not be torn as easily as a covering bag used on the outside

The pack can be periodically recoated with water proof sprays. *Do this outdoors.* CAUTION: Some sprays, used anywhere in the house, can be lethal to pet birds.

Seam seal stuff sacks and the pack itself. *Do this outdoors.* If you add decorative patches to your pack, make sure to seam seal the needle holes you made sewing the patches on.

FIT

Many manufacturers are now sizing their packs using a torso measurement. Your torso measurement is the distance from your seventh vertebra (the bump on the back of you neck) down to a level line drawn from the top of one hip bone around your back to the other hipbone. Measure with a soft, clothing measuring tape.

See next page.

TORSO MEASUREMENT

Torso Measurement	Pack Size
< 18-inches	Small
18 to 20-inches	Medium
> 20-inches	Large

PACK CAPACITY

< 3,000 cubic inches	High volume day pack (winter or mountain outings) or ultra light overnighiter for warm weather camping.
3,000-3,999 cubic inches	3-season weekend trips.
4,000-5,999 cubic inches	Winter weekends or a week on the trail.
6,000 plus cubic inches	Multi week treks, gear intensive winter outings, and for strong parents who carry their own plus family or kid gear.

Some of the information for this article includes that from REI folders, Backpacker and Outside magazines, Complete Walker IV by Colin Fletcher.

The only reason to buy a pack is for it to fit.

If it also carries food, clothing and gear, that's an added bonus.