

What's Your Bag? By Harry Roberts

You can cope with a blister. Or prevent it. Adequate rain gear is cheap and available everywhere. You can jury-rig a mediocre pack and make it useful. A diet of freeze-dried monotony won't drive you away from the backcountry. But one or two nights of poor sleep can reduce you to a quivering mass of jelly. Unable to enjoy. Unable even to cope.

Most gear you take with you helps you live more comfortably. A sleeping bag helps you live. Period. But a sleeping bag is not an easy purchase. Most of what you're buying is hidden from view. In a sense, you are at the mercy of your outfitter and the manufacturer.

Your defense is knowledge. Much of what you can't see can be deduced from what you can see. But only if you have a sound grasp of what a sleeping bag is supposed to do in the first place.

Simply stated, a sleeping bag is a portable garment that helps you retain your body's heat. Anything on a bag that doesn't further this function is useless.

You have to define the limits within which the bag must function. If you start with an exaggerated notion of your invulnerability to cold, you'll wind up with a sleeping bag that's far too chilly for comfortable sleep. If you want to play Hero Mountaineer at your outfitter's, you will wind up with a bag suited for a winter ascent of Denali. And it just might be a touch too warm for a July weekend in the Ozarks. Look for a bag that will provide sufficient theoretical insulation to cope with most of your trips. Worry later about that wintertime supertrip you might take some year. Don't worry about five or ten degrees, though. You can accommodate that with nothing more than a dry set of long johns.

Once you've defined the temperature range in which you'll be using the bag, you must then define the general conditions of use. This—and the weight of your wallet—will largely define the kind of insulation for which you will look.

If most of your backpacking is weekend-ing, the additional bulk and weight of synthetic insulation is little, if any, penalty. If you're a high-country hiker who must cope with considerable changes in elevation, ounces become pounds with alarming speed. The savings in weight and volume that a down bag offers may well be worth the additional investment.

The backpacker who is also a canoe tripper should look closely at synthetic insulation, as should the lowland backpacker. Low country is generally damp country. High humidity affects all insulation adversely, but it affects the synthetics less than it affects down.

If you're traveling far and fast in the lowlands, either on foot or in a canoe, down may be your choice. A bivy shell will protect your down sleeper from ambient moisture, and the waterborne traveler has many very reliable, totally waterproof gear bags available at very reasonable prices.

No insulation is proof against stupidity,

however. Nor should it be. If you leave your sleeping bag draped over the tent while you day trip a nearby peak, and it gets soaked by an afternoon shower, you get what you deserve. If you make camp in a shallow depression that leaves you, your bag and your tent awash after a thunderstorm, don't expect the bag to compensate for your lack of foresight. If you feel that a sleeping pad is too heavy or too bulky to pack, don't look for the bag to keep you warm. The backcountry is neither friendly nor hostile. It is, simply, supremely indifferent to your presence. An ounce of knowledge and foresight is worth pounds of gear out there.

Once you have defined temperature and function conditions of use, you can then examine various sleeping bags with discernment.

Fit

Begin with shape. You need not be a thermodynamicist to recognize that a slim sleeping bag conserves your body's heat more effi-

Six Ways to Get More Warmth From Your Bag

Spring and fall are notoriously unpredictable. A balmy 70-degree day may close in a snowstorm at 20 degrees. If you find yourself in a freak storm that takes your sleeping gear below its advertised comfort range, there are a number of things you can do.

(1) Sleep inside a tent, if you have one. This will increase the comfort range of the bag by five to ten degrees. If you don't have a tent, rig a shelter out of a poncho. It will at least reduce wind chill.

(2) Head for the hills. Cold air rolls down the mountainsides, and the warm rises. You'll be warmer halfway up the mountain than in the valley or on top.

(3) Sleep in dry clothing. And that includes a hat.

(4) Huddle together for warmth. This is more than a metaphor. It works.

(5) Stuff sacks or poly bags on your hands and feet, with mittens and socks over them, are effective. Extra socks are useful emergency mittens.

(6) One of our editors and his family have adopted a simple method for coping with unexpectedly chilly summer nights. Everybody carries a set of lightweight skier's underwear—long john bottoms and a long-sleeved top. They're marvelously cozy around camp when the sun goes down, and they offer enough warmth to augment a lightweight summer bag on a crisp night.

In addition to the long johns, every member of the family carries a lightweight wool hat. They get teased about it by their friends—until the sun goes down.

ciently. Likewise, it is no mystery that a bag with a hood is warmer than a bag without one, all other things being equal.

There is a tradeoff here. Efficiency is desirable, but not at the expense of comfort. If you find a bag very confining, or the cut of a particular hood uncomfortable, avoid the bag like the plague. Bear in mind that you will require a thicker blanket of insulation to achieve the same level of protection if you choose a very roomy bag, or a bag without a hood. Bear in mind also that you can quickly accustom yourself to a slim, efficient, hooded mummy bag. If you have doubts, rent a mummy at your outfitter's or borrow one from a friend and use it for a night. You need not make this test on the trail. Your backyard—or your living room floor—are acceptable substitutes.

You alone can determine fit and comfort. Efficiency dictates that you purchase the shortest bag that fits you well. But you must be able to draw the hood fully around your head and shoulders, without compressing the insulation at your feet. You can determine this easily in a shop. If you choose to buy by mail, you would be well advised to select the next longer size if you are close to the manufacturer's size limit.

Loft

Insulation creates a thermal barrier of still air around you. In simple terms, thickness (loft) is an acceptable measure of insulating power—if you are comparing similar materials. A new down bag, uncontaminated by body oil and sweat, and fluffed up in a dry environment, will loft more than it will after three days on the trail in the Cumberland Plateau. The synthetics exhibit less loft in the same temperature range, but are less affected by moisture. While less thick, they provide a uniformly dense thermal barrier.

To compare bags for thickness, fluff them and place them side by side on a floor. Whether the bags are down or synthetic, the old rule of five card stud applies: *If you're beat going in, you'll be beat coming out.* No sleeping bag will ever exhibit more loft than it will on the floor of a backpacking shop before you buy it.

Control of Loft

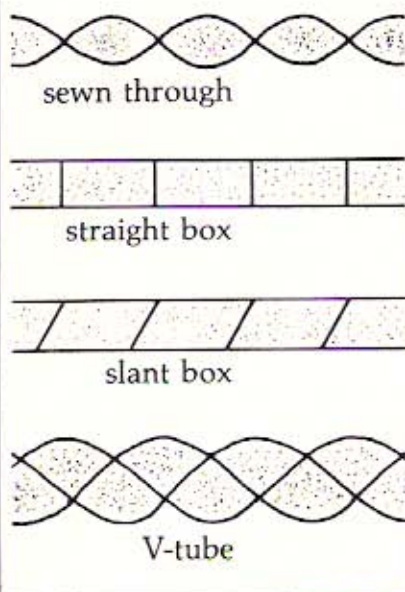
Comparing the loft of several bags is straightforward. But loft is not enough. The insulation must be controlled to maintain uniformity of coverage.

Loft control is relatively easy with synthetic insulations. Check for sewn-through seams that will transmit heat to the atmosphere. The foot section and the side seams are particularly vulnerable.

Controlling down is more difficult. The simplest method is to quilt the bag, sewing the inner and outer shells together at regular intervals. But this leaves no insulation at the seams. Two layers of nylon are indeed cold comfort on a brisk night.

The commonest method of controlling down is to sew a series of baffles between the

Baffle Types



shells. A baffle is a wall of fabric that confines the down to a specific location.

A stretchy, circular-knit nylon tricot is the commonest baffle material in high quality bags. A very light ripstop nylon is used on some bags. It is even stronger than tricot, but somewhat heavier. And, more difficult to stuff. Nylon marquisette (mosquito netting) was once the standard baffle material for all bags. Today, it is used on less expensive bags. It is the least durable of the baffle materials, and unless sewn with a generous seam allowance, can pull apart easily.

There are three basic baffle patterns: (1) box, (2) slant box, and (3) V-tube.

The box, with straight walls, is the simplest. It permits the down to loft to its fullest, and it requires less fabric than the other systems. If the tubes are not filled with the proper amount of down, the box will permit the down to shift away from the baffles more readily than would the other methods.

The slant box both limits down shift and permits the down to expand fully. It requires more material than the box baffle and may be marginally heavier.

The V-tube requires much more material than any other loft control system. The construction limits the loft to the height of the triangle formed by the baffle material. But the loft control is the best of any system. The weight, complexity and expense of the V-tube largely limit its use to expedition-grade winter equipment.

Some bags use contoured baffles, cut to provide more loft at the top of the bag and less at the sides. The results is an attractive bag with considerable loft on top—but not nearly enough loft along the sides. It is to your benefit to check more than the apparent loft of a bag. You must also check to see that the loft is uniform all around the bag.

Does this mean that those bags which advertise more loft on the top than on the bottom are less than useful? Down—and to a lesser extent the synthetics—compresses

underneath you. It provides less insulation. This is why the backpacker uses a sleeping pad or an air mattress. In theory, insulation in the bottom of a bag is wasted. Unless you turn over or on your side when you sleep! The backpacker who uses a slim-cut mummy rarely turns inside the bag; the backpacker and the bag move together. If the bag is thinner on the bottom, half of you will be chilly.

Proper loft control in a down bag also requires a sidewall baffle extending the entire length of the side seam opposite the zipper to keep down from migrating from the top of the bag to the bottom. Makers of bags without sidewall baffles claim that you can shake the fill from the bottom to the top (or the reverse) to adjust for warm or cold nights. Again, this is fine—in theory. Just don't roll over!

Check for the presence of a sidewall baffle by gently pulling apart the inside and outside seams. If the sidewall baffle is less deep than the baffle depth elsewhere in the bag, you have a built-in cold spot.

Shell Cut

Most down bags use a differentially-cut shell. This means that the outer shell is cut larger than the inner shell. In theory, this aids in the maintenance of uniform insulation thickness by preventing cold spots caused by the sleeper pressing against the inside shell of the bag.

Some manufacturers avoid the differential cut. They maintain that the sleeper will be warmer if the inner shell of the bag is the same size as the outer shell. This cut, called a "space filler," allows the inner shell to drape around the sleeper's body. It eliminates much of the circulating air space within the bag.

Is there really a difference? Probably not—if the bag is well made and uniformly filled to begin with.

Shell Materials

Years ago, the commonest shell material was a high-count 2.2-ounce nylon taffeta. Ripstop nylon made its appearance, and quickly drove taffeta out of the backpacking market.

Ripstop was sold to the backpacking public on the merits of light weight and durability. But two things were apparent to the discerning shopper. Army Quartermaster Corps tests showed taffeta to be far stronger and more abrasion-resistant than ripstop. And obvious visual evidence showed that ripstop, unless calendered (hot-finished), was far less downproof than good taffeta. Less apparent to the shopper was that ripstop was cheaper at the mill than good taffeta.

Of late, taffeta has made a comeback. We admit to being pleased. The durability and downproof qualities of taffeta make it a rational material for sleeping bag shells.

Another fabric that seems popular—for use in liners—is a 50/25/25 blend of polyester, cotton and nylon. Marketed under a number of different names, such as Trinyl and Triblend, this fabric has a softer, less "icy" feel than pure nylon.

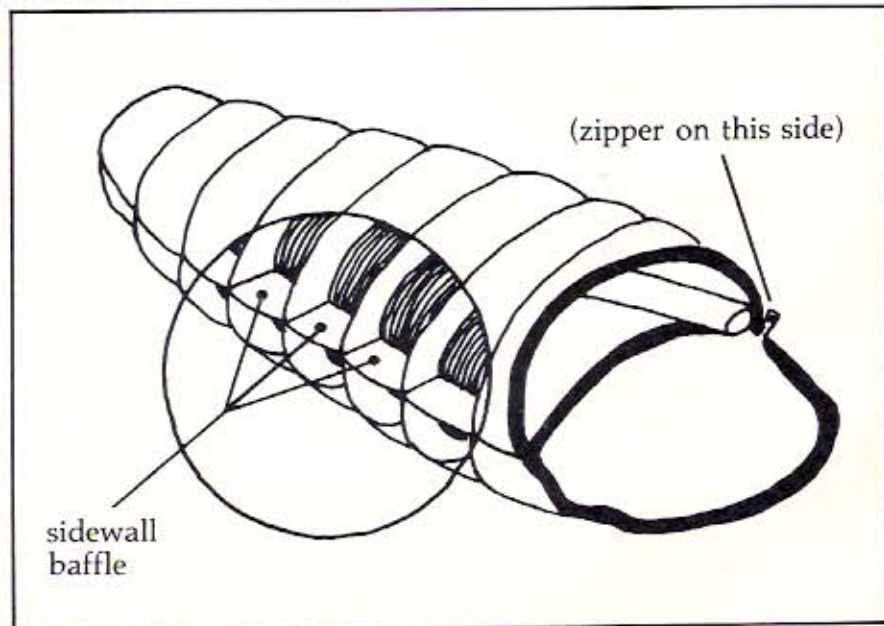
Modular Sleeping Systems

A useful and inexpensive way to increase the warmth of your sleeping bag is to apply the same layering principle that you would use for clothing.

The basic sleeping bag is a three-season mummy. But it may be chilly in November. And it is certainly too warm on a sultry July night.

The answer? A liner bag. A liner bag is a slim, simply-made bag, often without a zipper, that fits inside a mummy bag. The liner will add the loft you need for November and will be adequate by itself in the dog days of summer.

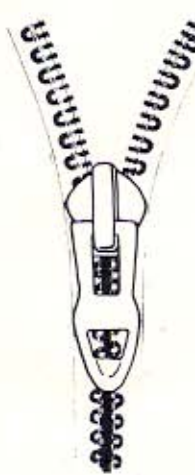
An alternative is an overbag. Usually of polyester, this too is a simple bag. Your three-season mummy fits inside it. Consider it an insulated bivy shell. Like the liner bag, it can be used by itself in hot weather. And when the bottom drops out of the thermometer, use all three—overbag, mummy and liner.



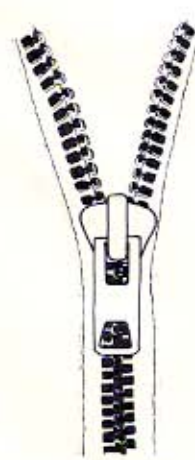
Zipper Types



continuous coil zipper



ladder coil zipper



tooth zipper

Hoods

A hood can extend a sleeping bag's range by as much as 15 degrees. But thermal efficiency is only one consideration. A poorly designed hood will be inefficient simply because you will not use it.

Much has been written about hoods. But if the hood is reasonably well filled and free of cold spots, the sole consideration is usability. Does it fit you comfortably? Can you draw it around your face easily, quickly and securely? Or does it bunch up around you.

Perhaps the most significant difference between the down bag and the synthetic bag is hood comfort. A mediocre hood design will still be passably comfortable in down, because the fill is yielding. The same hood design in a synthetic bag is nearly unusable. The bulkier insulation forces the hood closure to pucker uncomfortably. In some instances, it is nearly impossible to draw the hood closed to its most efficient position.

There is no simple way to cut a truly good hood. In down, a good hood requires many pieces and many baffles. And it is doubtful whether a first-rate hood can be sewn for a synthetic bag at a reasonable cost.

Foot Sections

A well-designed sleeping bag will have a generous foot section. Insulation in that section will be uniform, with no sewn-through seams.

You can determine uniformity of fill by reaching inside the bag with one hand and patting the inside of the foot section with one hand and the outside with the other. And if it's a down bag, check for a baffle running across the end of the foot section. This will keep the fill from collapsing to the bottom of the bag.

Zippers

A zipper should run from the top of the bag to nearly the bottom. It should have two sliders, so the bag can be opened from the head or from the foot for ventilation. It is convenient to have both an inner and an outer pull tab on at least the top slider.

Most zippers will snag. The only way to check for a reasonably free-running zipper is to get into the bag and try it. A well-designed draft tube will reduce the frequency of snags. Nothing but careful operation will eliminate them.

Sleeping bag zippers are of three designs—continuous coil, ladder coil and tooth. A considerable folklore has built up around each type. But there seems to be little difference in overall reliability. Zipper manufacturing is a very competitive business. Poor zippers simply do not survive.

Draft Tubes

The zipper is a potential source of heat loss. It must be shielded by a full-length, insulated draft tube. This prevents warm air from exiting and keeps you from contacting a cold zipper.

A draft tube should extend well beyond the foot of the zipper. It should be sewn into the foot section in such a way that air cannot leak around the zipper foot.

We prefer a draft tube that is an extension of the bag rather than a sewn-through "add-on." The integral draft tube will stay in place

better. It will also eliminate one sewn-through seam in a critical area.

There is little excuse for the add-on draft tube on a down bag. There is no excuse for it in a synthetic bag. It's comparatively simple to sew the zipper into the shell and let the bag form its own draft tube.

Workmanship

The best designs and the best materials offer no advantages if the bag is shoddily made. No, you can't tell good down from mediocre down. Neither can you determine the thicknesses of the several layers of continuous filament fiberfill insulation in a bag. But you can inspect the workmanship.

It is not always true that good needlework indicates good quality down. But it's the best assurance you have.

What is good workmanship? In basic terms, it is needlework of a quality that insures the integrity of the bag for a long period of hard use.

Dispense with the myths. There are almost no hot-cut production sleeping bags in America. (Hot-cutting the shell fabric keeps the light nylon from fraying and unraveling at the edges.) Custom bags? Yes. Production? Only a handful. This is no problem—if the builder cuts the patterns with a generous seam allowance. Feel around the seams. You can feel the excess material turned under. Feel the baffles as well. Even marquisette is an acceptable baffle material if it is cut with

Extras!

One option that some sleeping bag manufacturers offer is a Gore-Tex shell. This is mostly for down bags, although we're beginning to see this on polyester bags, too.

A Gore-Tex shell can be beneficial on a down bag that will be used in cold, wet conditions. It will protect your fill from outside moisture such as mist, dew, rain, or snow. However, the fill can still become wet from moisture given off by your body during sleep—as much as a cup or so, even on the coldest night.

Another option is the vapor barrier liner. Two manufacturers we know of—Stephenson's and Alaska Wilderness—offer this as a standard feature on their bags.

The VBL is an inner shell of non-breathable material, such as coated nylon. This is meant to keep you warmer in two ways. It protects your fill from the moisture your body gives off. And also, the VBL presumably is a better barrier to the loss of your body's heat through convection.

A sleeping system that combines both a Gore-Tex shell and a VBL will certainly keep your insulation dry. If extended winter camping in moist climate is your trip, such a combination may be worth the extra expense and slightly increased weight.

Other options offered by manufacturers include insulated collars, removable hoods, compression stuff sacks—and even a netting top for your bag for tropical outings.

a generous seam allowance.

Look at the stitchlines. Are they even? Or do they wander like Chesterton's rolling English drunkard? Are the bag baffles and the sidewall baffles sewn together so that down cannot migrate from tube to tube? And are the baffles sewn continuously to the draft tube? Are the seams backstitched to secure them?

Count the stitches. Eight to ten per inch is acceptable. Fewer than that will leave large loops that are too easily snagged. Many more than that can cut the fabric.

Look at the side seam opposite the zipper. This is a problem seam. It must catch adequate amounts of the top inner shell, the bottom inner shell and the sidewall baffle. Does it? Is the seam surged (stitching wrapped and bound around the edges of the fabric) or otherwise well-secured? Is it covered with tape to protect both the seam and you?

Synthetic bags offer less opportunity for spectacularly good needlework. But the needlework should be no less clean. And

seam allowances are even more critical. With the denser, less yielding polyester fill, there is more seam loading. That is, more stress is placed on the seams, as they're called upon to hold stable a greater thickness of material.

Look closely at the side seam and the seam that joins the bag from the zipper foot to the foot section. Poor workmanship and inadequate seam allowances may result in these seams being virtually sewn through.

Frills are too easily confused with workmanship. Liner tabs—either loops or metal snaps used for attaching an extra liner—are useful. A tab from which the bag may be hung is worth the weight. An insulated draft collar to keep chills away from the neck is useful. Double draft tubes and double zippers are secure, if heavy. A generous storage bag is an appreciated extra.

But none of these items are necessary! Don't confuse them with the functional elements of a sleeping bag. And remember the old drag racer's adage: "If it don't run, chrome it!"

Cleaning Your Bag

First, let's get one thing straight—cleaning your bag is necessary. Sure, it's true that natural oils contribute to down's resiliency and, hence, loft. But that just applies to the natural oils in the down. Your natural oils are another story. And dirt and other contaminants will further reduce down's ability to insulate.

Professional cleaning of your down bag is acceptable. But relatively few dry cleaners are equipped to do it right. If in doubt, ask what type of solvent they'll use. If they use harsh synthetic agents based on chlorinated hydrocarbons, such as perchloroethylene (known in the trade as *perk*), tell them "Thanks, but no thanks." Such treatment would reduce your fine goose down to a shambles.

Other professional cleaners will use mild petroleum-based agents, such as Stoddard solvent. This is fine—but afterwards, you should still air the bag out before using it again.

Two companies that we know of who are equipped to professionally clean your down bags are Central Cleaners Inc., 512 Tarrytown Road, White Plains, NY 10607, and The Down Depot, 108A Carl Street, San Francisco, CA 94117.

Washing your bag by hand is still a good idea. There are a few common sense guidelines that you should follow.

Put the bag in your bathtub and add enough lukewarm water to just cover the bag. Use only Ivory Flakes or one of the special down detergents. Two that we know of are Nu-Down, from Royal Down of Belding, MI 48809 and Down Cleaner from The North Face, 1234 5th Street, Berkeley, CA 94710. Do not use regular laundry detergents.

Work the suds through the bag *gently*. Do not tug, twist, wring, or rub. Rinse the same way. Drain the sudsy water. Add fresh water. Work through the bag, and drain again. Repeat this until no suds appear in the rinse water. Then, drain the

tub and gently squish the water out of the bag. Do not ever attempt to lift a waterlogged down bag. You will wind up with a handful of nylon and the most expensively insulated bathtub on your block.

Finally, gather up your bag carefully, supporting it *entirely*. And it's off to your laundromat's big tumble dryers you go. Put your bag in at *no* or *very low* heat. It's also a good idea to add one or two other items to help agitate the bag a bit and keep the down from clumping. A sneaker will do neatly.

Gore-Tex Bags

If your bag has a Gore-Tex shell, use the above hand washing method only. We recommend limiting the soap to only Ivory Flakes, and using cold water instead of warm. When in doubt, follow the manufacturer's directions.

Polyester Bags

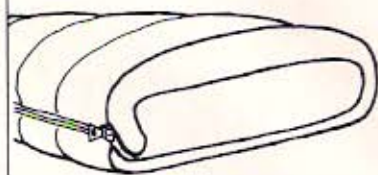
Do not dry clean. Hand washing as above is the ticket. Use the same extreme degree of care.

Machine washing is also acceptable for polyester bags. We recommend a front-loading machine, like at your laundromat. Your top-loading machine at home agitates a bit too harshly.

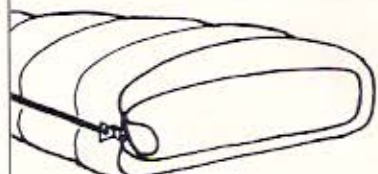
Use a mild detergent and cold or lukewarm water. *Never* use hot water. And at every foot or so over the length of the bag, fasten a safety pin through the inner and outer shells. This will help the fill stay put. Tumble dry as you would a down bag—but remember the injunction against heat. Either *no* or *very low* heat.

And between cleanings, take care of your bag. Store it unstuffed, where it can rest at full loft. Toss it in the dryer or air it out when it becomes damp. (Avoid direct sunlight, though.) Sleep in pajamas or use a liner. Sleep with a ground cloth or insulating pad. And above all, avoid crackers in bed.

Draft Tubes



integral draft tube



sewn-on draft tube

Sleeping Bags

A look at some models available for 1980. All weight, fill weight and loft specifications are for the manufacturers' long size bags.



Alaska Wilderness—Multi-Top Sleeping Bag. A semi-mummy with two separate down-filled tops (use either or both). Aluminized vapor barrier lining. Specifications vary with custom sizing and construction—consult manufacturer. Sample weight and price, large 70-inch-girth bag with both tops and integral foam mat: 6 pounds, 14 ounces. \$340.



Alpine Products—#1 Tuolumne. Modified mummy with 48 ounces Hollowbond polyester, 6-inch loft. Differentially-cut shell is nylon taffeta. Lining is Trinyl nylon/cotton/polyester blend. Zipper is a YKK nylon coil, 70 inches long. Weight is 4 pounds, 2 ounces. \$100 regular, \$103.50 long.