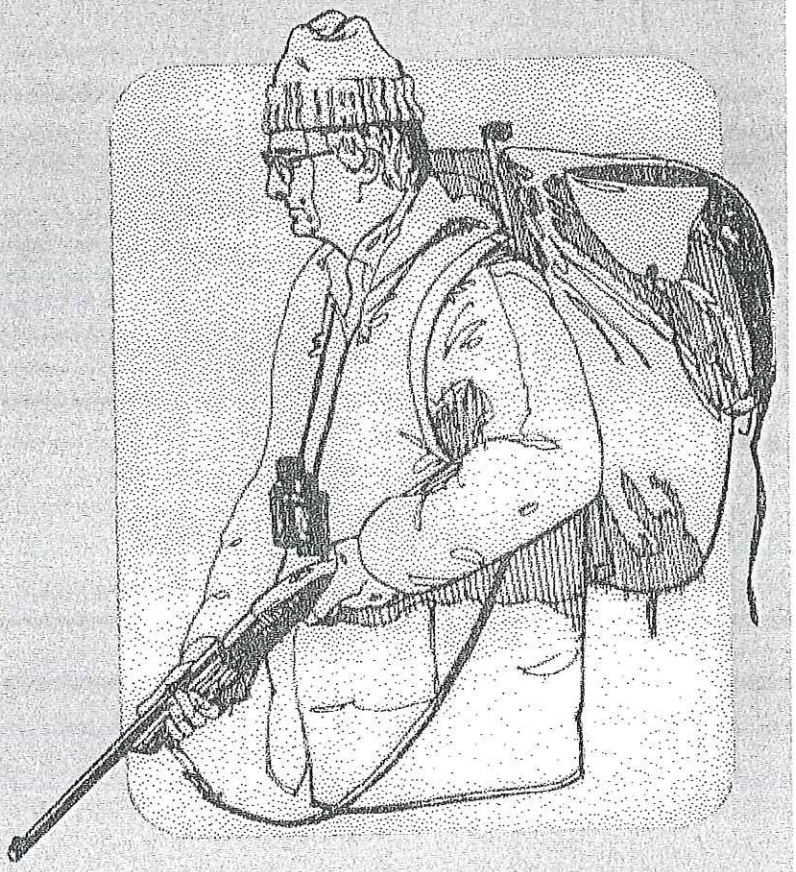
Equipment



Introduction

The veteran hunter has learned from experience exactly what equipment to take on a hunting trip. He plans ahead, then takes only what is needed, reduced to the smallest practical weight and bulk.

Knowing what to expect in the way of terrain, weather, shelter and water, and taking steps to meet these conditions are essential to the success of the hunt.

For the newcomer to hunting, advance planning will ensure comfort and safety right from the start. This chapter suggests how to select, use and take care of equipment, clothes, personal items, camping gear and food; and how to plan ahead to avoid pitfalls that could get you into trouble.

Clothing

Function of Clothing

Clothes by themselves are neither "warm" nor "cold." It is your body heat and what happens to that heat when wearing clothing that makes you feel warm or cold.

Clothes which make you feel warm keep your body heat inside the clothing. "Warm" clothes keep out the cold air surrounding your body and trap your body heat in the same way that insulation between the inside and outside walls of your house keeps it warm in winter.

Clothes in which you feel cold let your body heat escape. Clothes dampened by sweat or wet weather are "cold" clothes. Wind, though it dries up dampness by evaporating moisture, chills as it dries and can thus make you cold.

A hunter's clothing must provide a layer of insulation for warmth, absorb perspiration, and be able to shed rain and cut the wind.

Clothes should be loose enough for comfort. They should not restrict movements. New clothing, no matter how well it fits when first worn, needs to be "broken in." Plan to buy any new hunting clothes well before the hunt so any alterations can be made before wearing them afield. The more comfortable the hunter, the longer he will stay afield.

The big game hunter must be especially careful selecting clothes for the hunt. The temperature in mountain areas can rise and fall several degrees in a few minutes even as he walks from sunlight into shadow. Hunting big game is strenuous exercise. The hunter may get hot and perspire during the chase, but his body will cool off quickly when he stops to rest. There is a very real danger of becoming chilled.

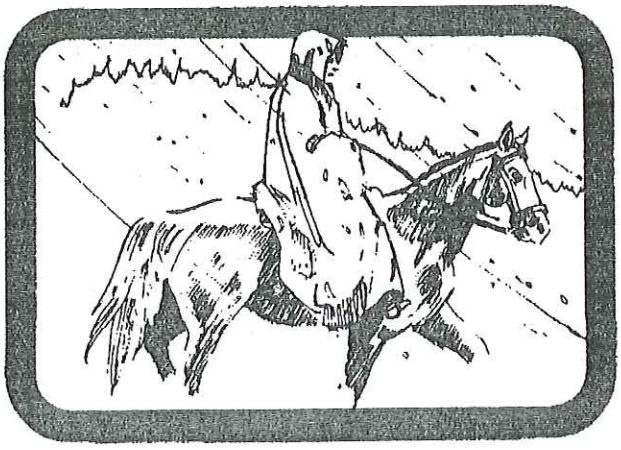
Advice from outfitters, experienced sportsmen or those who live in the territory can be most helpful to the hunter in choosing the proper clothes for the hunt.

Warm Weather

During warm weather, wear regular cotton underwear. When worn on the outside, cotton breathes allowing cool air to penetrate. Light cotton shirts with short sleeves are ideal for warm climates and shirts of heavy cotton are suitable for hunting during mild weather.

Cold Weather

Unless you are planning to hunt in subzero temperatures, pants of any fabric; cotton twill, duck, denim or wool, will be suitable for hunting. Denim jeans are practical for hunting,



inexpensive and tough enough to withstand thorns and brambles in brush country. If horse-back riding will be part of your activities, denim jeans make comfortable riding pants.

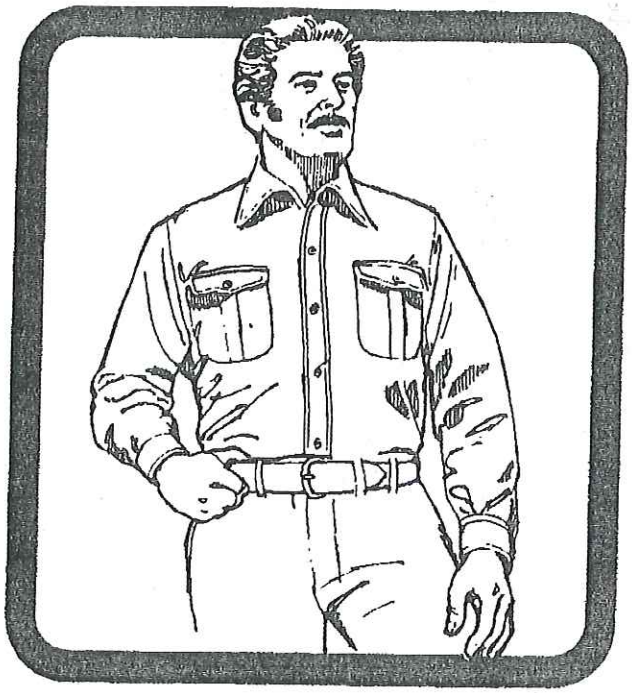
For cool fall days and frosty nights, thermal knit undergarments are ideal. The quilted knit fabric provides extra insulation and absorbency and is easily laundered and dried in camp.

For colder weather, layering of clothes should be implemented. This strategy traps warm air between the individual layers providing insulation for the entire body. It also enables the hunter to remove clothes when warm and put them back on when cold.

Begin with an underwear layer. Cotton and silk are excellent for cool days and light activity, however, they absorb moisture and are therefore not the first choice for strenuous hunting. The newer synthetic fabrics are designed to absorb less moisture and in some instances, whisk sweat away from the body. Lightweights such as polyester and polyester blends that include nylon, polypropylene, spandex or rayon fabric are very popular for this purpose. Traditional wool is still used to fashion base layers, but in many cases the older fabric has been replaced by merino wool which features exceptionally soft fibers. Merino wool offers more warmth than synthetic materials of the same thickness. It is still comfortable on warm days due to its breathable wool fibers and water absorption that keeps skin cool. Treated silk is also a popular choice due to its moisture wicking abilities and comfort. In extreme cold, heavier fabrics and quilted undergarments of down or Dacron will keep you comfortable.

The next layer should be made up of clothing designed to insulate the body. It can consist of one or more layers depending on the temperature. Natural fibers that fall into this category are wool, fleece and down. Keep in mind that down is useless when wet and is not quickly or easily dried in the field so weather conditions should be monitored. Excellent synthetic materials that fall into this category are Qualofil, polyester, and Thinsulate. Each provides a high degree of protection against the cold, continues to insulate even when wet, and are quick to dry.

The final layer should be windproof and possibly waterproof. Synthetic fabrics such as ripstop nylon are windproof and offer some degree of resistance to rain. Coatings and fabrics with laminated membranes such as Gore-Tex, eVent, and Omni-Dry repel both wind and rain and allow your perspiration to pass through to maintain warmth and inner dryness.

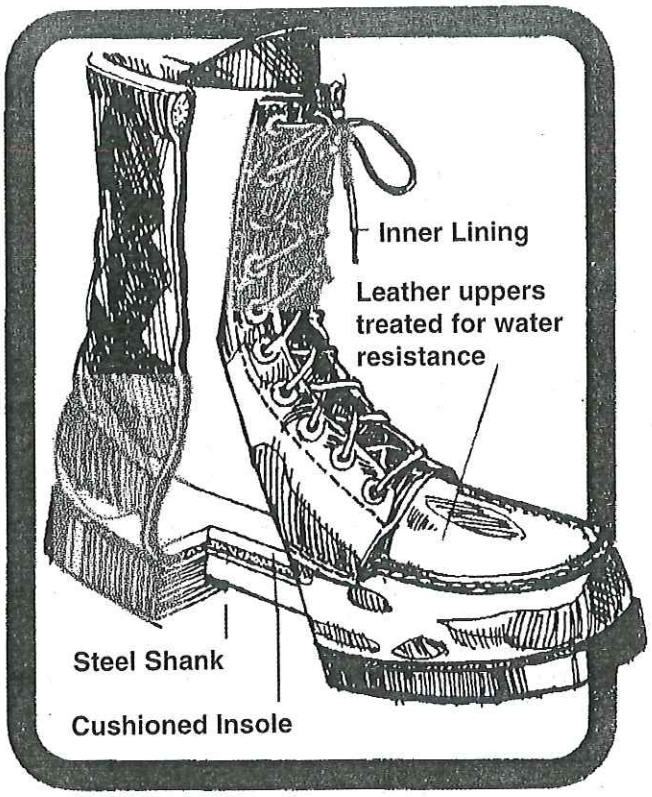


Boots and Socks

Care and conditioning of the feet and proper fitting boots are essential to the hunter's well-being. Unconditioned feet may swell and bruise. Boots which do not fit can cause painful blisters and a blister can be considered a major injury when walking far from camp.

The most common cause of blisters is chafing from socks and boots which rub against the skin. This friction occurs when boots are too large or loosely laced and if socks are lumpy or wrinkled.

You should not wear everyday socks for hiking or hunting. Most hunters wear two pairs of socks - thin lightweight ones next to the feet and heavier socks overtop. Socks should be wool, synthetic, or wool-synthetic mix, not



cotton. Cotton socks will make your feet wet, clammy and uncomfortable after walking a long distance. They can even cause blisters. Wool socks are warm and they soak up sweat. The thickness of two pairs will act as a cushion between boot and foot. Merino wool and wool-synthetic mix socks are preferred by many hikers because they wear longer than woolen ones, wick moisture, wash easier and dry more quickly.

When pulling on socks, be sure to smooth them out. Remove all wrinkles or bunching at the toes or heels. When trying on boots, remember to wear your hiking socks. If two pairs of socks do not give a snug fit, try wearing a third pair. Experienced walkers know that loose boots can cause blisters. To prevent this, boots should be laced fairly snug around the foot but less tight around the ankle. To do this, lace the boot firmly to the top of the instep and tie a reef knot here to hold the tension and pre vent the laces from loosening. The laces can then be comfortably laced from the instep to the top of the boot.

The weight of your boots is very important. Even a few ounces of extra weight carried for many miles can be equal to several hundred pounds of physical exertion. Boots should be sturdy, but avoid wearing boots heavier than you need.

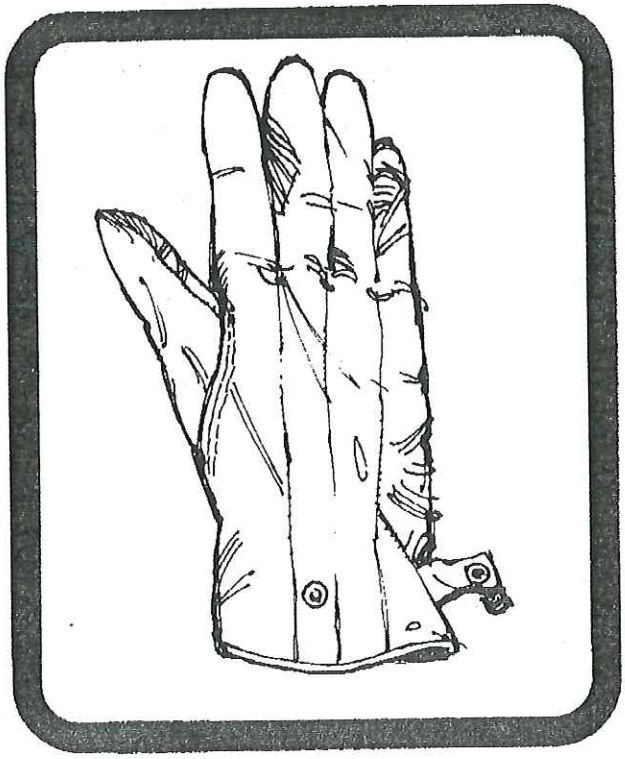
Because hunters need boots that will last through long and hard usage, most prefer leather boots between 8 (20 cm) and 10 inches (25 cm) high. Leather is sturdy yet supple and molds to your foot shape with wear. Leather breathes letting in air and carrying off heat. It also has good insulating properties.

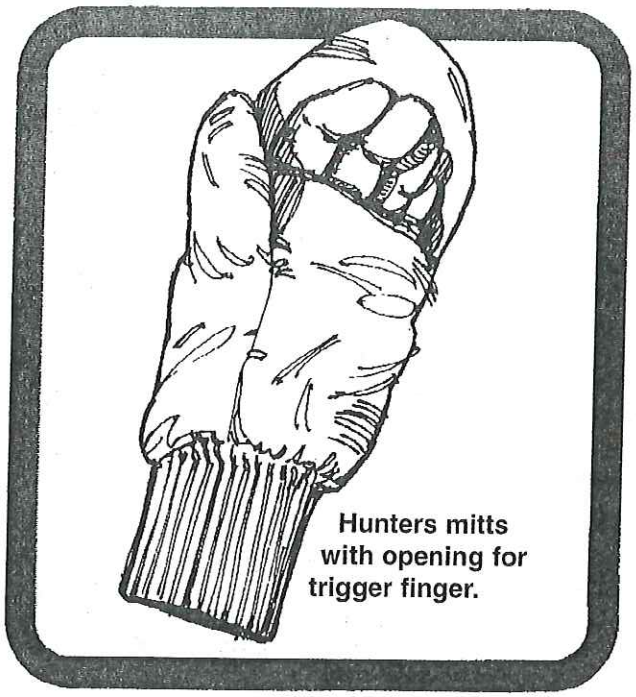
On a rocky trail or uneven surface, you need boots which will not slip and slide. Soles should be made of neoprene, a synthetic material most often sold under the trade name Vibram. For hunting in rain, light snow or in marshy areas, soles of heavy gauge rubber can be an advantage.

When walking through bush or along dusty or graveled roads, twigs, burrs and small stones can collect in your socks and boots. Such bits of dirt and debris can rub and irritate your skin causing painful sores and blisters. Socks and boots should be removed occasionally to shake out any objects which have been picked up on the trail. Boots bought for hunting should be a half size larger than your regular shoe size to allow room for thick socks and innersoles and for some swelling of feet which is normal during hard walking.

For hunting through marshy areas during mild weather, moccasin style boots made of heavy moose hide are a good choice. Modern boots made with rubber and Neoprene are offered in a variety of thickness and insulation options. They are durable, waterproof and will grip well on most terrains.

The duck hunter, who must often wade through swamp and water to retrieve his quarry, needs waders. There are three main categories available: hip waders, waist-high waders and chest waders. Hip and waist-high waders are typically uninsulated, breathable and generally constructed of nylon or polyester ideal for warm and moderate weather. Insulated chest waders made of Neoprene are ideal for cold-water wading and provide maximum coverage. Neoprene waders come in various thicknesses, offering different degrees of warmth and breathability. They should be large enough to be worn with thick socks and felt insoles.





Hunters mitts with opening for trigger finger.

Gloves and Mitts

Gloves are a necessary part of a hunter's cold weather gear. But gloves can do much more than keep the hands and fingers warm in cold weather. When handling horses and saddles, riding, working with ropes, setting up camp and doing other rough work during the hunt, hands and fingers need protection against cuts, blisters, splinters and other injuries.

In mild weather, short buckskin gloves are useful. Modern lightweight gloves constructed from synthetic materials like polyester can have a next-to-skin feel for added comfort and usability. Fleece liners can provide additional warmth and silicon-printed palms offer an enhanced grip. Avoid gauntlet style gloves because they will collect twigs, leaves, and debris.

Jersey-Knit work gloves available from most department stores and super-markets are durable and practical but are not waterproof and are impractical for wear in rain, snow and other wet conditions. In cold weather, thick insulated gloves lined with Gore-Tex will keep hands warm and dry. Jersey-Knit gloves or lightweight synthetic gloves can also be worn inside heavier gloves for added warmth.

For winter hunts in sub-zero cold, down-filled mitts traditionally provided the most warmth. Modern synthetic gloves or mittens that are insulated with Thinsulate or similar material offer a variety of insulation levels for varying cold conditions. Most are water resistant and can feature long gauntlets to keep out snow and wind. Some offer scent blocking technology and suede material to lessen noise. Pop-top mittens are versatile and new glove designs feature material on the index finger that allows the user to operate a touch screen device like a smart phone or GPS without removing the glove.

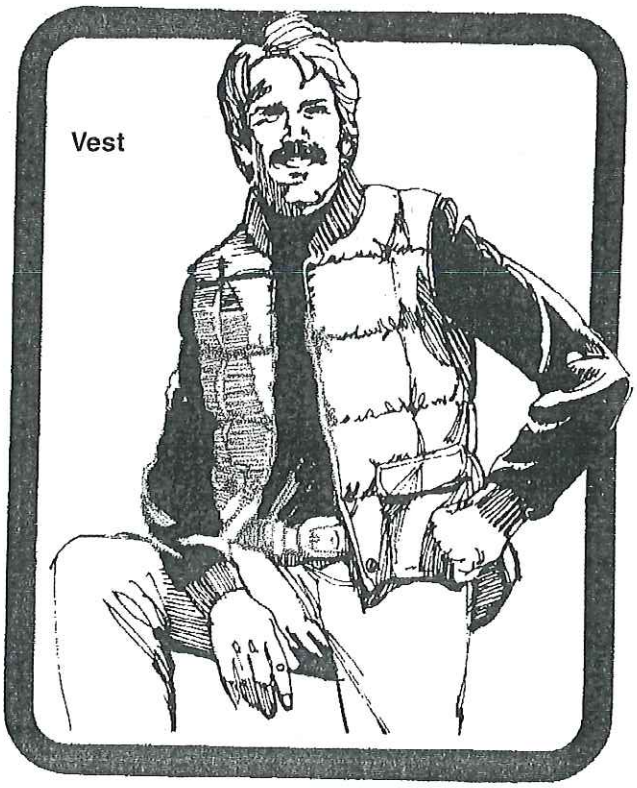
Hunting Coats

A lightweight sleeveless cotton hunting vest is ideal for warm weather. In mild weather, a denim jacket is a wise choice. Like denim jeans and riding pants, a denim jacket is trim, light-weight and hard-wearing. Denim resists snagging on branches and underbrush better than most other materials and it is not an expensive fabric.

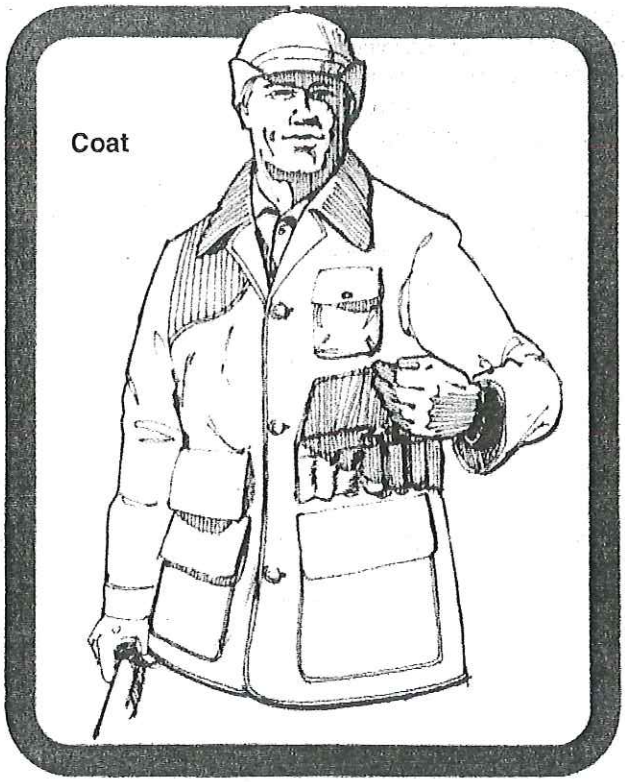
There are many varieties of modern lightweight hunting coats available at sporting goods stores and online retailers. The most common lightweight coats have a durable polyester or nylon outer shell for more breathability, water and wind resistance. There are many additional options for these coats available including a number of pockets, camo pattern designs, scent control and inner insulation levels that should all be considered depending on how it will be used in the field.

Down vests are popular because they retain body heat to keep you warm and at the same time allow great freedom of movement. For extremely cold weather conditions, a down-filled or insulated jacket with hood is the ultimate in warmth and comfort.

Insulated jackets with removable liners offer a variety of uses and options. All combined, they offer the most protection from the elements for a big game hunter. They can feature enhanced protections from water and wind through a breathable outer shell made from Gore-Tex or similar material and thick insulation for extreme cold conditions. A mackinaw is a practical coat for the big game hunter as well because it is made with double thickness



Vest



at the shoulders and cuffs which adds extra warmth and protection from the wind. On a big game hunt, a waterproof jacket and trousers are a must.

There are coats designed specifically for duck hunters. Usually insulated with multiple layers and a waterproof and windproof shell, the duck hunter's coat has many pockets in which to carry a supply of shells, and a large pocket in the rear in which to carry his game. They can feature a removable hood, gusseted underarms for movability and camo design patterns to match surroundings.

Headgear

No matter what the weather, a hat should be included with the hunter's gear.

You should have headgear that will not be easily knocked off or nudged over your eyes by tree branches. In bright sunlight, your hat should shade your eyes and protect your neck and ears from sunburn. In cold weather, it should keep your head warm and protect your ears from frost-bite.

Body heat is lost rapidly when the head is exposed to cold. Because body heat escapes faster through the head than from anywhere else on the body, it is vital to keep your head covered in extreme cold. Your hands and feet will remain warm longer if your head is covered and warm.

Change of Clothes

Hunters who expect to be camping for several days away from showers and other sanitary facilities should pack a complete change of clothes. Wet, torn and dirty clothing are common on a hunting trip and changing into clean clothes add greatly to a hunter's comfort.

Bedding

Sleeping Bag

The most convenient, practical and warmest bedding for the hunter is a sturdy sleeping bag.

A sleeping bag makes a comfortable bed and also helps to limit the loss of body heat while you sleep. The warmth of a sleeping bag depends on the thickness, not the weight, of its insulating material.

For camping in mild weather, filler material of manmade polyester such as Dacron or Fortrel provides adequate insulation and is lightweight.

In the fall, even though the days may be warm, night-time temperatures can drop drastically and you will need a bag which provides maximum insulation to keep you warm. A down filled bag will keep the hunter warm even when camping in the snow or in Arctic conditions. A sleeping bag should have a flannel inner liner, which you can make from a flannelette sheet, to protect the bag and keep it clean. It can be removed easily for washing.

In very cold weather, it's a good idea to fold a blanket inside the bag for extra insulation and warmth.

Be sure to get a bag that is the right size for you.

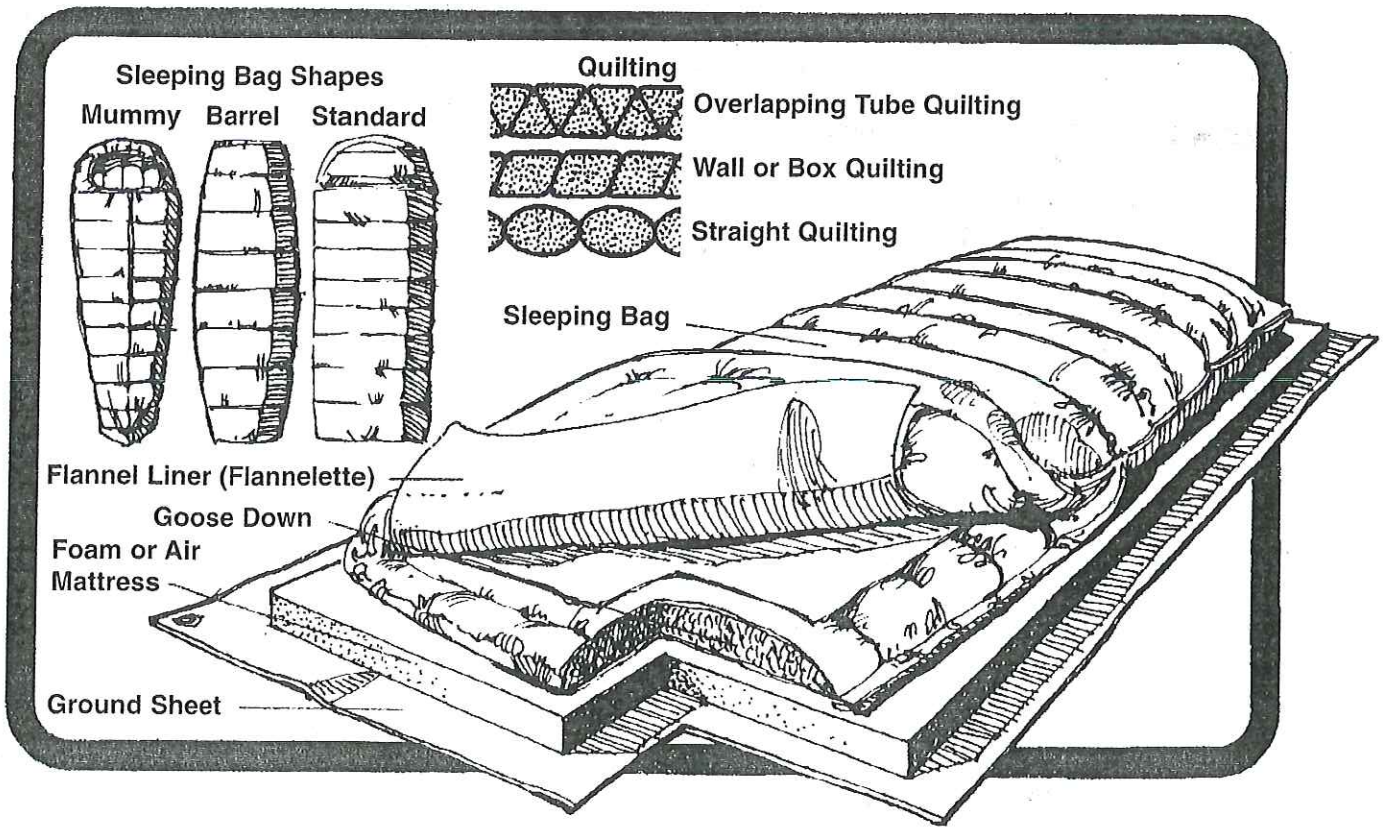
Pillow

Your pillow should be small enough to roll up inside your sleeping bag. Inflatable rubber pillows are often used with sleeping bags and some air mattresses have a pillow attached. There are also pillows filled with feathers or foam with are made especially for use with sleeping bags. If you do not have a pillow, a rolled up coat or jacket is a good substitute.

Mattress

Underneath your sleeping bag, you will want a foam pad or air mattress. As well as cushioning your body from the rough ground, a mattress provides additional insulation.

An air mattress should not be over-inflated. Blow it up just enough so that when lying on your side your hipbone will bump the ground when you bounce gently up and down.



Tents

Tents are made from several kinds of fabrics including canvas and water repellent cotton, but most recreational tents today are made of nylon. Nylon is exceptionally strong, easy to repair if torn, will not rot, is water resistant and weighs only a few ounces per square yard.

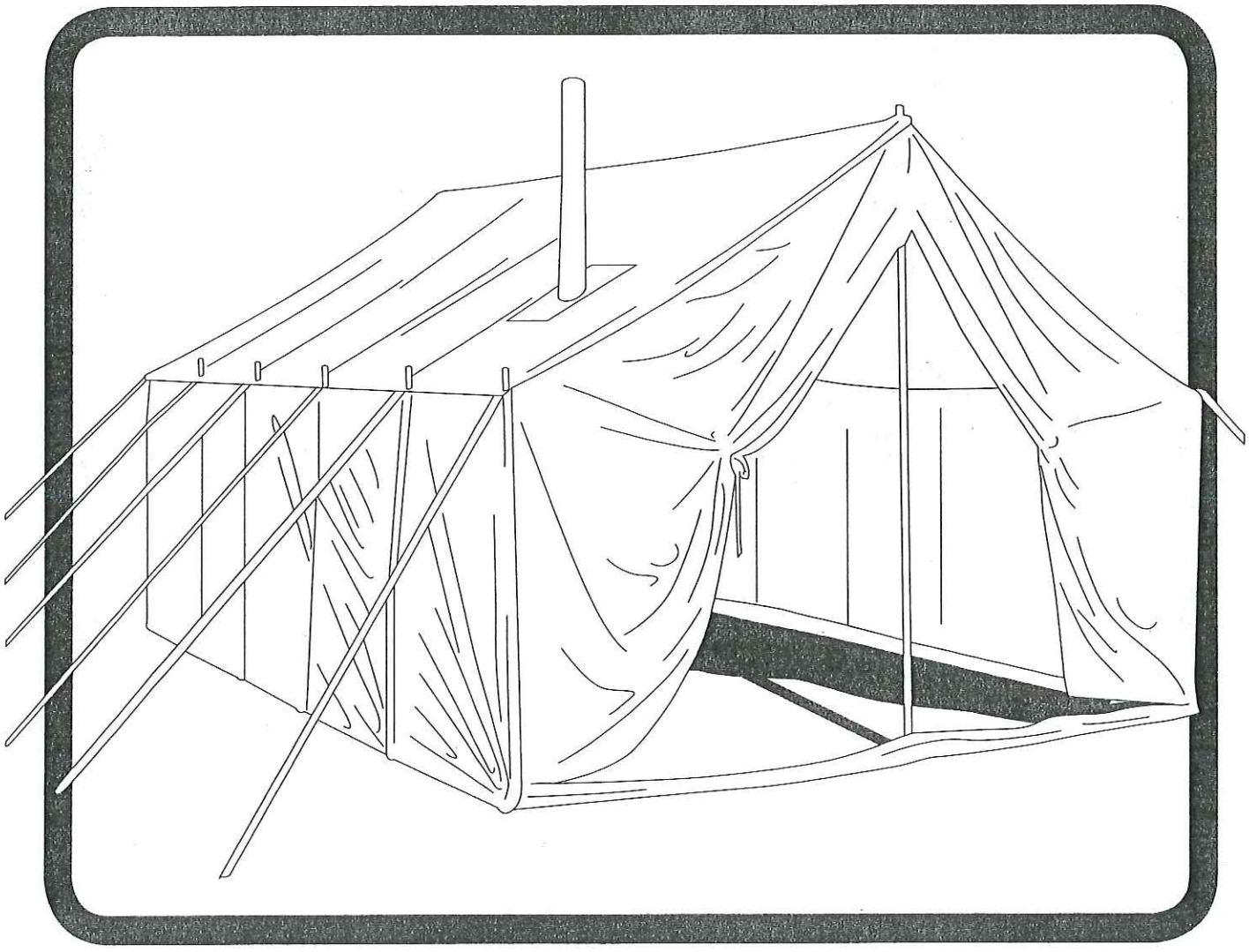
A tent keeps you and your gear dry, warm and sheltered, and it protects you from insects when on a hunting trip. There are many styles, sizes and weights of tents available. The tent your hunting party should take should be practical for the kind of camping you plan to do. It should provide snug shelter from strong winds, rain and show.

Wall Tent

A large wall tent, 12 x 14 feet (3.5 x 4m), will accommodate four hunters comfortably. It has room enough for moving about inside and plenty of head room. With a wood burning tent stove, it will keep the party warm in any weather.

When a stove will be used to heat the tent, it is better to have a canvas tent. Although much heavier, canvas is less flammable than nylon. If a wood burning stove is to be used, the tent must have fire-retardant ring or flap for the stovepipe to exit without scorching the tent fabric. The stovepipe must project a foot above the ridge of the tent so the wind will not blow sparks onto the roof.

A smaller wall tent, 8 x 10 feet (2 x 3m), is suitable for two hunters, but it will be a little cramped. Sleeping bags should be rolled up during the day to make more room inside the cooking and eating tent.



Forester's Tent

A forester's tent makes use of nylon fabric and aluminum pegs and poles to save weight. A campfire built outside the tent opening will provide enough heat to keep the tent warm and comfortable even in extremely cold weather.

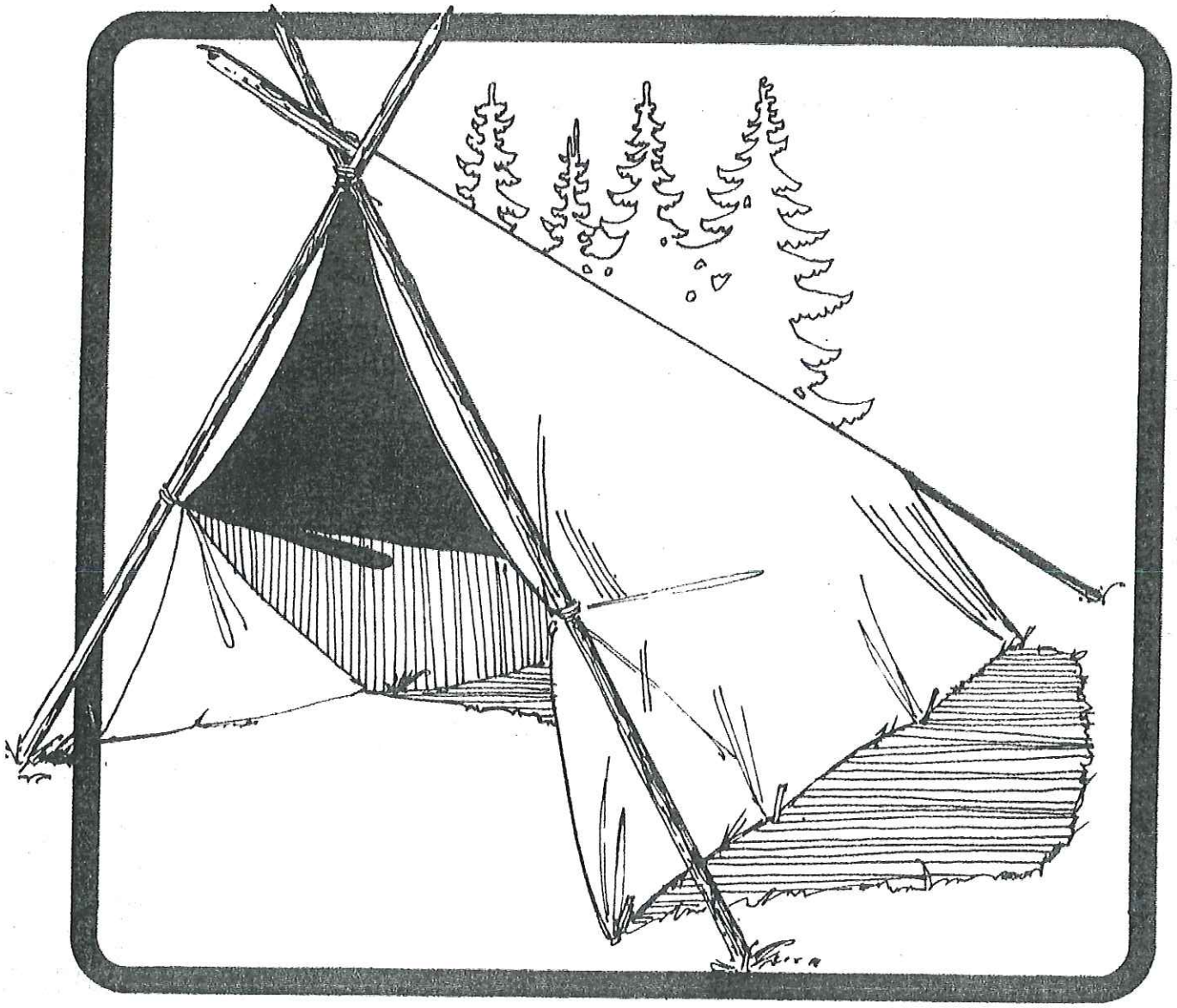
Because of this tent's design, a fire can be built quite close to it. A forester's tent is set up with three poles-two poles of equal length and a longer ridge pole. The ridge pole is erected at the rear of the tent. It is an easy tent to set up and take down. If rain or snow blows through the tent's front opening, the tent can be quickly turned to another direction by changing the position of the ridge pole.

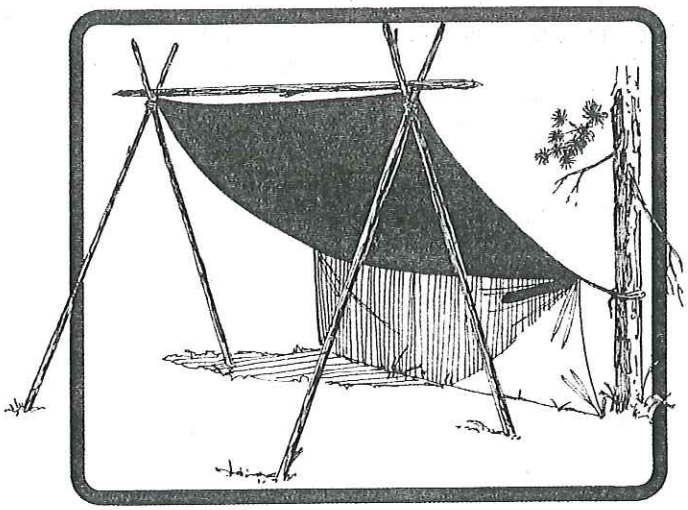
Mountaineer's Tent

A mountaineer's tent is useful for the hunter who requires only a place to sleep and protection from the weather. It is small and very light in weight. The tent floor is sewn to its walls, which keeps out drafts, mosquitoes and other bugs, as well as rain and snow. The tent is not high enough to stand up in and there is very little room for gear other than a sleeping bag.

Lean-to Tent

A lean-to or tarp tent makes a convenient and comfortable shelter. The tarp is simply a rectangle of water-proof cloth with rings called grommets every two or three feet along the sides and at each corner. The grommets are used to tie and erect the tent. The tarp can be any size which is adequate for shelter. Several different lengths of line for tying will give you the flexibility you require to set up a lean-to. A lean-to tent pitched at a 40 degree angle will provide good protection for beds and





gear stored under it. It will shed a driving rain. With a fire in front, a lean-to can be warm and comfortable. This type of tent is particularly suitable in the woods where trees are readily available for use as tent poles and where there is shelter from the wind.

To keep out rain or gusts of wind, small spruce trees and evergreen boughs may be cut down and stood up at the open ends of the lean-to tent.

A tarp has many other uses around camp and at least one should be included on every trip where space is available. A tarp can be used to cover food supplies and protect saddles and equipment. It can be set up as a roof to provide overhead shelter from rain or shade the sun or it can serve as a windscreen.

Outfitter Tent

Outfitter tents, like wall tents, are designed to be outback lodges or base camps for hunting trips and expeditions. They are typically made of strong synthetic materials that are extremely waterproof and designed to handle strong winds and extreme cold. These tents have straight wall constructions for added headroom and thick guy lines to secure it to the ground. Aluminum framing poles provide interior strength and stability. Removable panels, tubular vents and a stove jack for the roof allow for the use of a wood-burning stove inside the tent. Some outfitter tents feature vestibules that provide additional space and dry areas for storage.

Dome Tent

Dome tents come in numerous shapes slightly resembling curved domes. Curved sidewalls more easily shed rain and snow before it can accumulate. The number and strength of the poles determines the amount of structural stability. Some lightweight tents have only two flexible support poles that crisscross, while others add a third or fourth pole for increased stability and space. Some heavy-duty mountaineering tents have up to eight poles in a geodesic dome form to fully support the fabric. Numerous options for ventilation such as mesh ceiling panels and windows are available. A rain fly also protects against downpours, dampens the wind and holds in the heat on cold spring and fall nights.

Dome tents are free-standing. This allows the user to put the tent together and then position it on the desired location and secure it with stakes. In mild weather, staking keeps the floor taut, but if windy conditions are expected, good staking and guying is recommended. Poles are the foundation of dome tents and most tends use shock-corded fiberglass poles. They are easy to assemble, take down and store, but they can become brittle in severe cold weather.

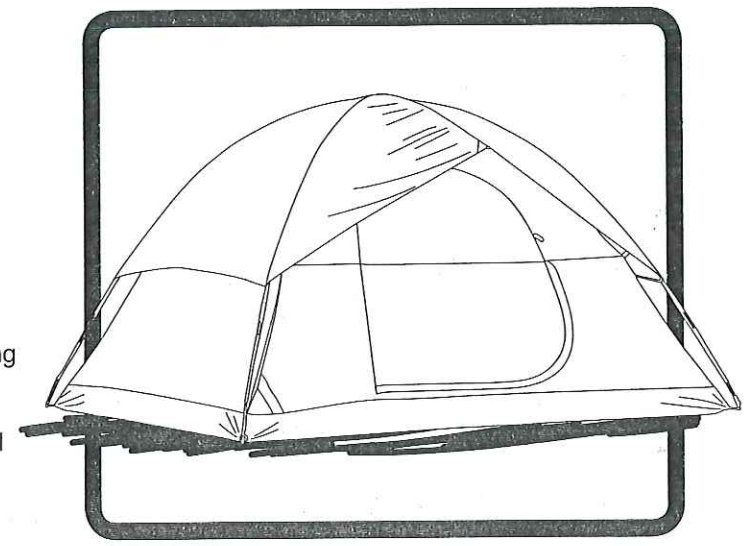
Selection and Care of Tents

Most tents on the market today are manufactured with waterproof canvas floors sewn in, mosquito screening at the entrance and vents which make them completely bug, wind and waterproof.

Although these features are important, there are some disadvantages to such models. The sewn-in floor adds considerably to the tent's weight and bulk. A wood-burning stove must not be used in tents with floors. The tent can only be pitched on smooth, level ground and mud and dirt tracked inside on a hunter's boot makes housekeeping a problem.

Sod Cloth

If your tent is floorless, you will need a sod cloth. A sod cloth is a strip of canvas about 12 inches (30 cm) wide, sewn completely around the bottom of the tent. The sod cloth is stretched out on the ground inside the tent and weighted down with stones or logs. This provides a wind and bugproof seal between the bottom of the tent and the ground.



A tarp, spread over the ground inside the tent makes a suitable carpet for a floorless tent.

Mosquito Screen

Tents can be kept mosquito-free with a curtain of mosquito netting or cheesecloth. The curtain should cover the entire front entrance of the tent. The netting should be very full and long. It should be sewn to the tent where the roof and walls meet.

When in use, the bottom of the netting is weighted down with a pole or tucked under the sod cloth. When the mosquito curtain is not needed, it can be tied to the top of the tent.

Color

Tents today come in a variety of colors. Light green or khaki colored tents are cooler in hot weather than those in brilliant colors. Some very dark green tents, especially those made of canvas, require a lantern when working inside even in daylight. White lets light through the fabric and makes the tent interior much cheerier than dark colors.

Waterproofing

Tents which have not been treated to resist water will shrink when wet and unless guy ropes are loosened, the tent pegs could be pulled out of the ground. Tents of closely woven cotton or canvas become very heavy when wet and are difficult to handle if you must break camp during a storm or immediately after a heavy rain. Most nylon tents are treated to make them water repellent and some are completely waterproof.

Untreated cotton and canvas tents can be made water-proof by painting them with a waterproofing solution available from tent and awning manufacturers. You can make a similar solution by dissolving paraffin in gasoline. After painting or soaking the fabric in this solution, hang up the tent until the gasoline evaporates.

If a spot on the tent is no longer waterproof and needs recoating, it should be rubbed with a block of paraffin wax.

Do not build a fire near tents that have been treated for waterproofing with paraffin and gasoline.

Repairs

Tears in cotton and canvas tents can be repaired by gluing a piece of waterproofing fabric over the tear, using fabric cement or canoe glue.

If a nylon tent is torn, it can be repaired with nylon sail repair tape.

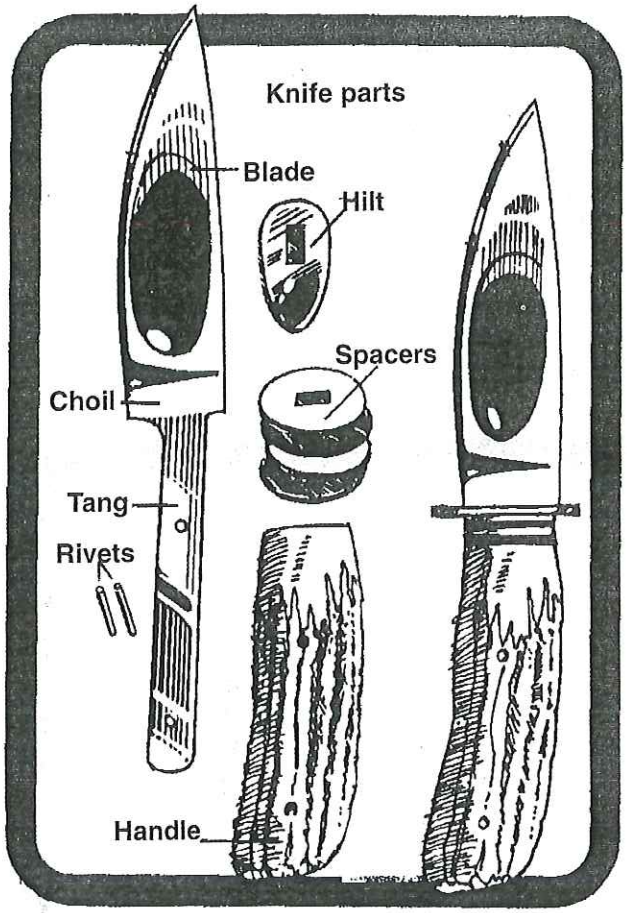
Storing Tents

Before packing a tent away, shake out all the dirt, twigs, grass, pebbles and bits of food. Be sure the tent is thoroughly dry before storing. Canvas and cotton will rot if stored wet. Nylon won't rot, even if put away wet, but it may become mildewed.

Knives and Axes

Knives

Some hunters prefer a sheath knife, others like a pocket knife. It is often wise to carry both when hunting in case one is broken or lost.



The blade of any knife should be of good quality steel so it will keep its edge for a reasonable time. With regular use around camp, a knife will need to be sharpened every three or four days.

Knife blades should not be used to pry, chop or bore holes.

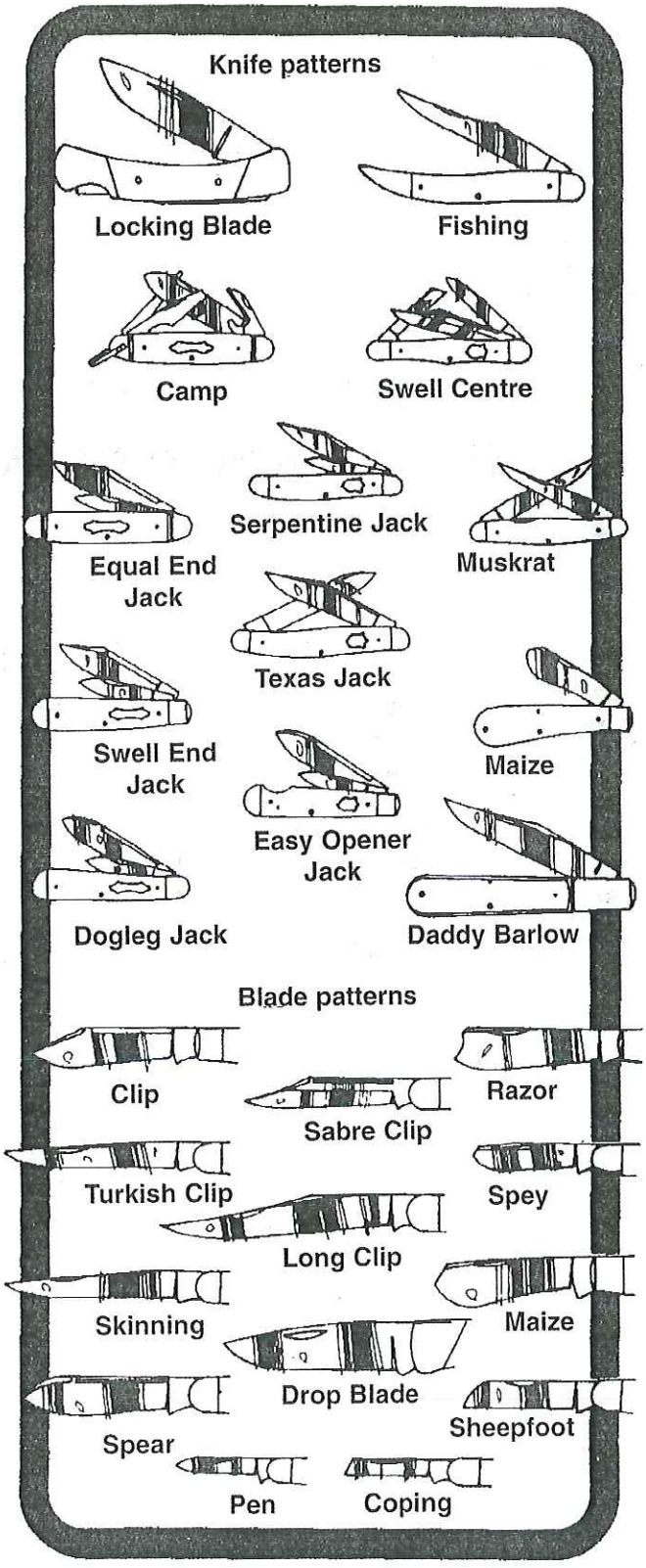
Sheath Knife

The blade of a sheath knife, to be effective for hunting purposes, should be no longer than 4 inches (10 cm). Longer knives are clumsy and not as versatile as a 4 inch (10 cm) blade which can be used for many chores such as butchering, skinning and whittling.

Sheath knives should remain in their scabbards at all times when not in use. The sheath, or scabbard, should be made of durable leather, reinforced at the tip with wire or copper rivets. To keep your sheath in good condition, clean it with saddle soap, never oil. Saddle soap will keep the leather supple.

Pocket Knife

A pocket knife for hunting should have two strong blades, each between 2 ½ to 3 inches (6 cm to 8 cm) long. A pen



knife is not suitable for such use. Pocket knives should be kept folded when not in use.

Sharpening a Knife

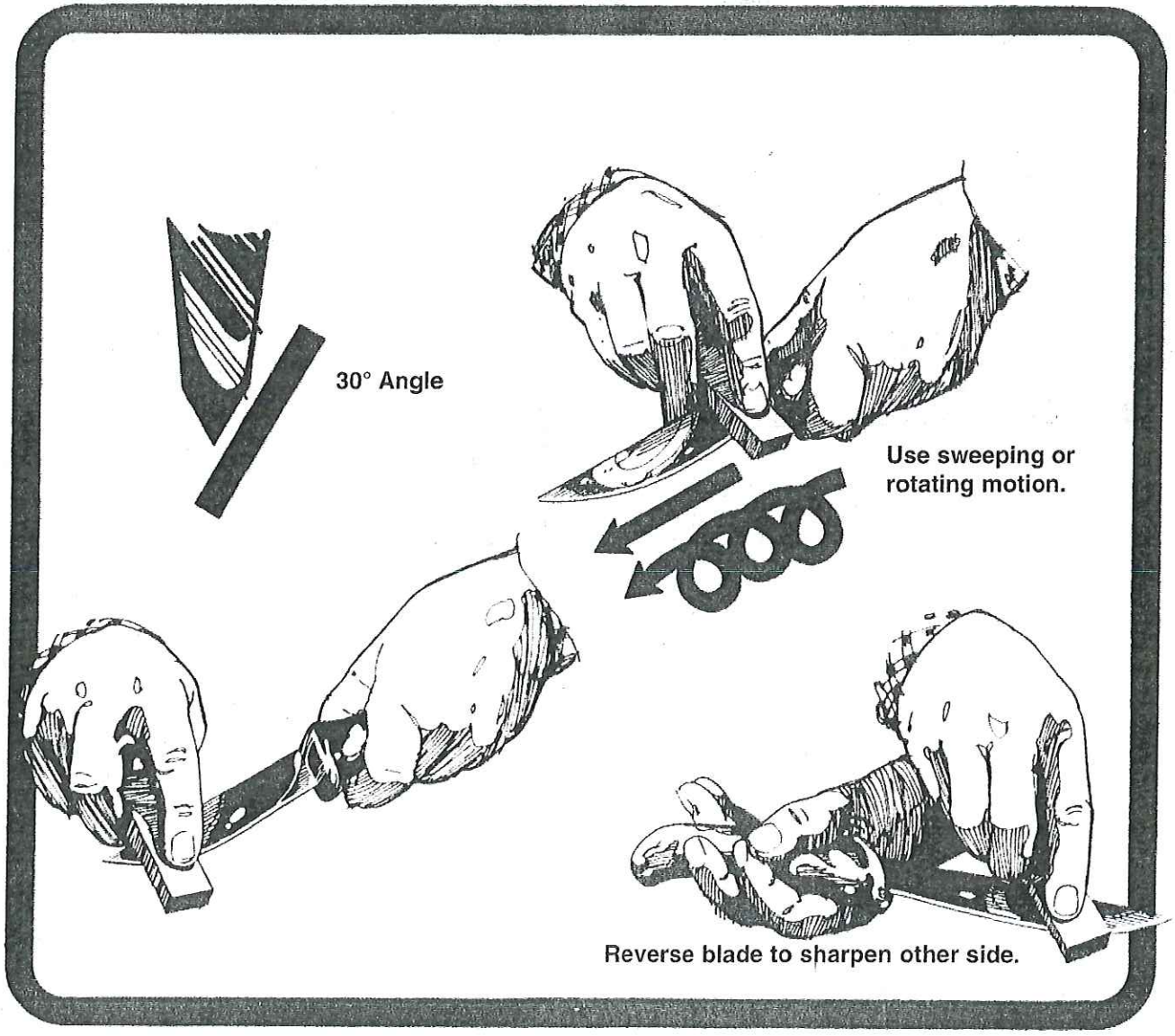
Knives must be kept sharp to perform their functions properly. Present day sharpening and grinding implements include a variety of electric-powered wheels and abrasive stones. Great care must be taken when using power equipment. In inexperienced hands, these grinders and sharpeners can do more harm than good. Most power sharpening and grinding devices produce a great deal of friction which generates very hot temperatures. Over-heating will "draw" the temper, thereby ruining the blade, which will never hold a keen edge again. There is a danger too, that an inexperienced person may grind away too much of the blade.

The safest method for the average person is to use a sharpening stone. Keep the stone wet using a honing oil or any fine grade oil. Holding the stone in one hand and the knife in the other, keep the blade at about 30° degree angle to the stone. Start at the knife handle end of the blade and, in a sweeping motion, rub the stone against the blade to the tip. Turn the blade over and sharpen the other side. Maintain an even pressure and the same angle consistently throughout the sharpening process.

To test if the edge is completely sharpened, run the blade edge lightly over the tip of your fingernail. The edge of the blade should grab at the fingernail. If the blade slips at any spot on its edge, continue to rub the blade against the stone a few more times.

For a razor sharp finish to your blade, you can give it a final stropping on a strip of heavy leather rubbed with jeweller's rouge.

Many sportsmen carry a sharpening steel with them to touch-up the edge on their knife between proper sharpenings.



Axes

The modern outdoorsman will find an axe is his most useful tool. Besides felling trees and chopping wood for fire and shelter, a well sharpened axe can skin and clean game and, if necessary, the steel axe-head can be used with a piece of flint to start a fire.

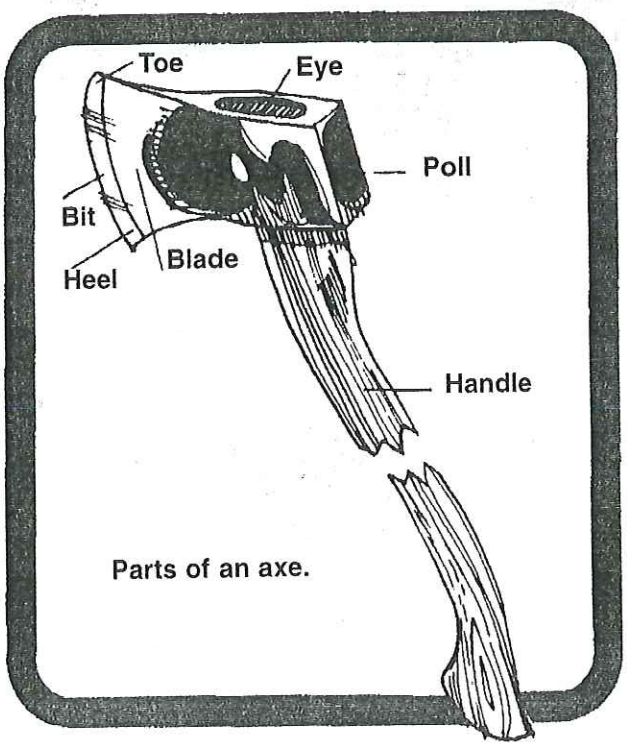
Selection of Axes

Axes come in different sizes to perform many different jobs. Axes are categorized as small, medium and large according to the weight of the axe-head and the length of the handle.

A camp axe is a small axe with a head weighing about 2 or 2½ pounds (.9 kg or 1 kg) and a handle between 20 and 28 inches (50 cm to 71 cm) long. It will chop small to medium size logs easily and can be used for bigger jobs if the edge is kept razor sharp. The camp axe takes up very little space and is ideal when horsepacking or when camping in small quarters.

No matter what size axe you choose, it should have a forged steel rather than cast steel head. Cast steel does not hold a sharp edge and breaks more readily than forged steel.

The best axes are made from high quality carbon steel which has been tempered to resist brittleness.



Parts of an axe.

When selecting a wood-handled axe, be sure the grain of the wood is straight for the entire length of the handle. Hickory is considered the best wood for axe handles.

Care and Use of Axes

Replace a cracked or splintered axe handle. Do not attempt to patch it.

When replacing a wood axe-handle, cut off the old handle as close to the metal head as possible. The remaining wood can be dug out of the eye of the axe-head in small pieces. Insert the new handle in the eye and tap it into place. Cut two hardwood wedges and insert them in the axe-head next to the handle. Drive the wedges in as far as they will go so the handle is seated snugly in position and is as tight as possible.

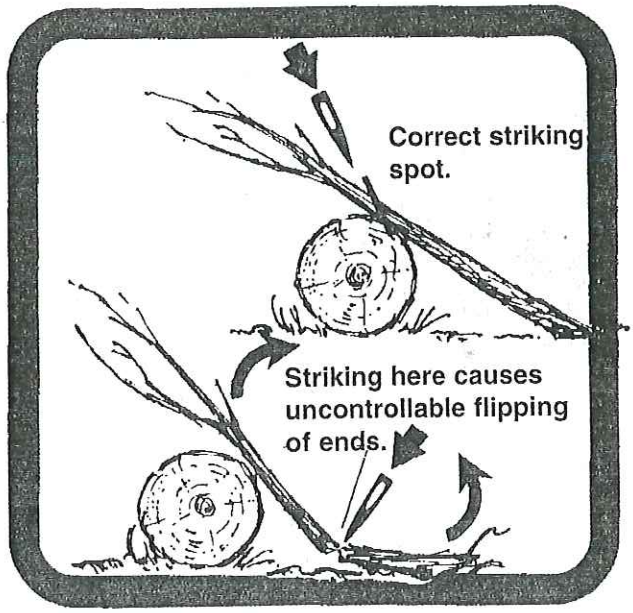
To protect the handle, rub linseed oil into the wood of the handle along its entire length using a soft cloth. Never varnish or paint an axe-handle. Painted or varnished handles can cause your hands to blister.

If an axe-head is loose, do not use it until it has been tightened. You can tighten a loose handle by driving the hardwood wedges in further to fit more snugly, or you can soak the axe-head in water which will cause the wood to swell and the handle will then fit more tightly.

In extremely cold weather, always warm an axe before starting to cut. Cold makes the metal brittle which could cause the axe-blade to snap.

When using an axe, always work on a chopping block. A stump or log makes a satisfactory chopping block.

Always be sure no one is standing in line with the swing of your axe. Be careful when using an axe to ensure that the area of your entire swing is clear of all obstructions.



Sharpening an Axe

A dull axe is dangerous. A sharp blade will bite into a log, but a dull edge may glance off the mark and cause a serious mishap.

To sharpen an axe you will need a file, and if available, a vise. Place the axe-head in a vise with the blade up. Clamp the axe-head in the vise close to where the handle is inserted in the eye. Holding the file flat, file from the eye along the entire edge. File on the outgoing stroke only, maintaining the same pressure and the same angle throughout the stroke. Turn the axe-head to the opposite direction to file the other side of the blade. Be sure to file both sides evenly.

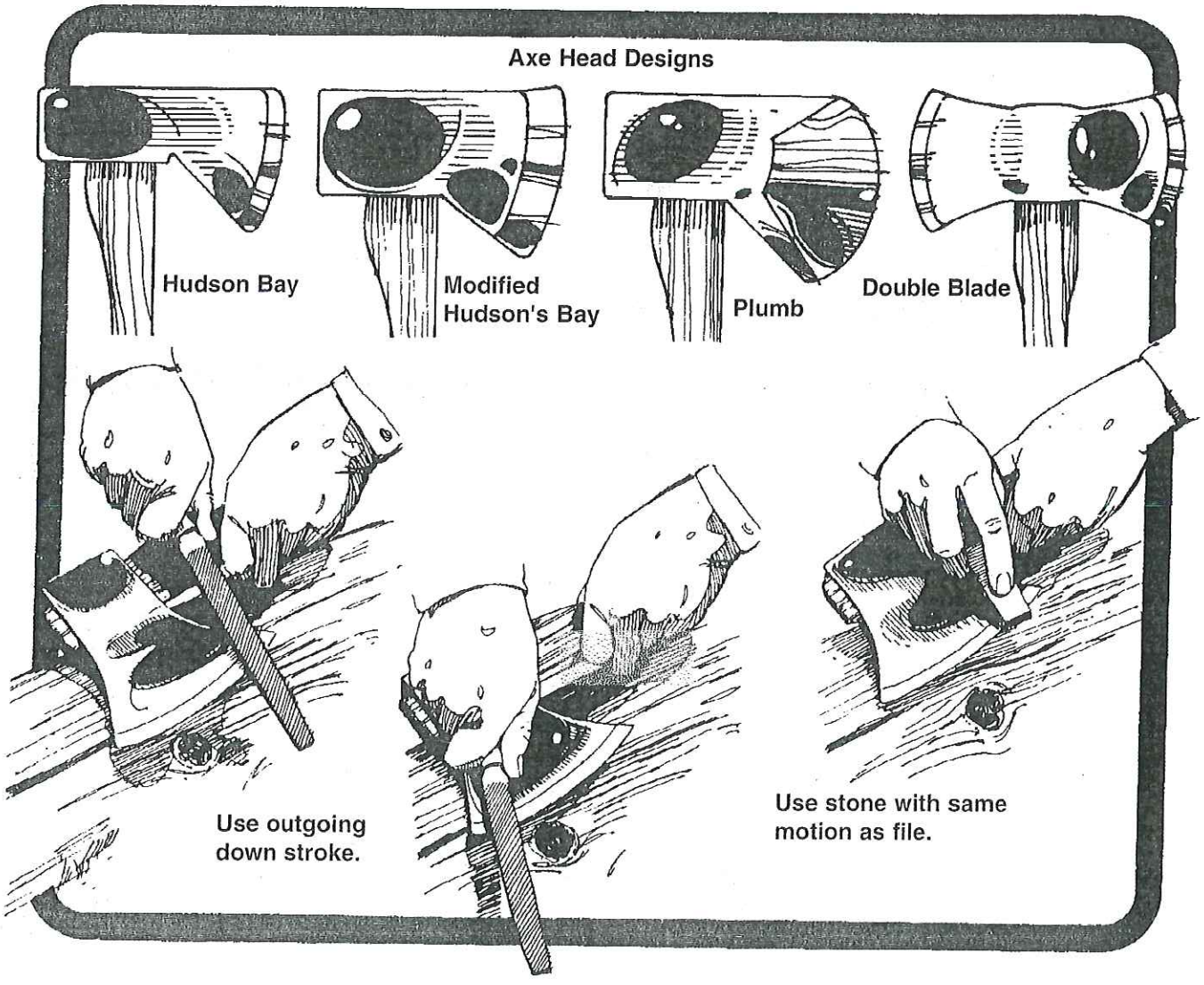
In the field, where a vise is not available, extend the edge of the blade over a log or stump and hold the axe-head securely with your knee or foot while you file.

To check if you have sharpened the blade evenly, sight down the edge. There should be a fine bur on the blade edge. If you notice any bright or white spots, file the edge again until these dull patches disappear.

A final rubbing with a fine emery stone will hone the edge to razor sharpness.

An axe should never be thinned, that is, ground or filed to a thinner shape than when it comes from the factory. Grind or file the axe in a fan-shape, leaving a little more metal at the corners. The cutting edge of an axe should be rounded, not wedge-shape. The rounded edge will throw wood chips outward, away from the blade.

An axe is the outdoorsman's most useful tool. Select a quality axe and care for it properly. Keep it sharp. Take proper care of the handle, keeping the head tight and the handle smooth. Never use your axe to drive or pound on anything more than a tent peg. Axes are not designed to be used as a sledge hammer or as a wedge and should not be used for these purposes. With care, an axe will give the outdoorsman years of useful service.



Compass, GPS and Maps

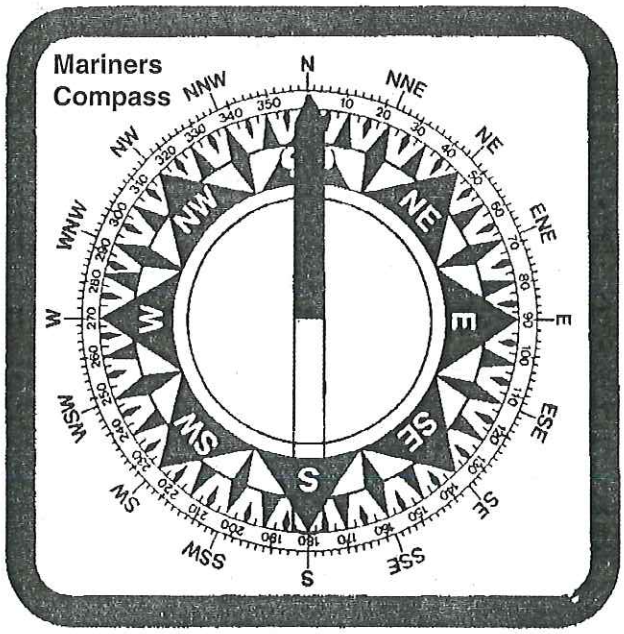
Compasses

A compass and a map of the region around camp should always be carried when hunting in unfamiliar country.

There are many types of compasses available. They range from a simple pocket compass which shows general directions, to complex models with sights and sighting lines, useful for drawing maps or navigating exactly to specific locations.

A pocket compass is satisfactory when the hunter just needs to know north, south, east and west directions to find his destination. There are two types of pocket com passes. One has a magnetized needle which pivots at its balance point and swings around the dial. The other has a revolving dial instead of a magnetic needle, which turns as the compass is moved.

A compass dial is divided into 360 degrees, numbered clockwise on the dial. The degree numbers shown on the dial are called azimuth directions. The letter N for NORTH is marked at the 0 degree point on the dial. South is at 180 degrees, east at 90 degrees, west at 270 degrees.



Usually one end of the needle is colored or one end is shaped like an arrowhead so you can tell which end of the needle is pointing to the north. Do not rely on memory to tell you which end of the needle is the north end. In the confusion which sometimes happens when a person realizes he is lost, or if someone is injured, it is easy to forget which end points north.

If there is any chance you will forget which is the north end of the needle, scratch a mark on it. Write on a piece of tape and tape it to the back of the compass, or inside the cover, "north gray" or "north red" or "north arrow," or what ever applies to your particular instrument. To tell which end of the needle points north, test it at home on objects and places where you know which is the true direction.

Be sure to hold the compass horizontally and flat. Otherwise the needle may stick or show an inaccurate reading. The compass must be kept away from metal objects. Stand several feet away from any firearms, axes, or knives when taking a compass bearing. Even a metal belt buckle can distort the needle's action. If you are near bridge girders or railroad tracks, move to a different position that is distant from the metal structure.

When hunting game, a compass is used to guide the hunter back to camp. For example, if the hunter decides to stalk deer in a range of hills about two miles distant, he would take a compass reading before leaving camp. If the compass showed the direction of the hills is southwest of camp, he would know that after hunting in the hills he must walk north-east from the hills to get back to camp. The direction should be checked at intervals along the way.

Should the hunter, on reaching the hills, walk several more miles, he must take this into account when reading the compass for directions back to camp. If he had turned to the right when he reached the hills and walked in that direction for several miles, he would then be almost directly west of camp, not southwest as he was on leaving camp. To reach camp, he must now travel east.

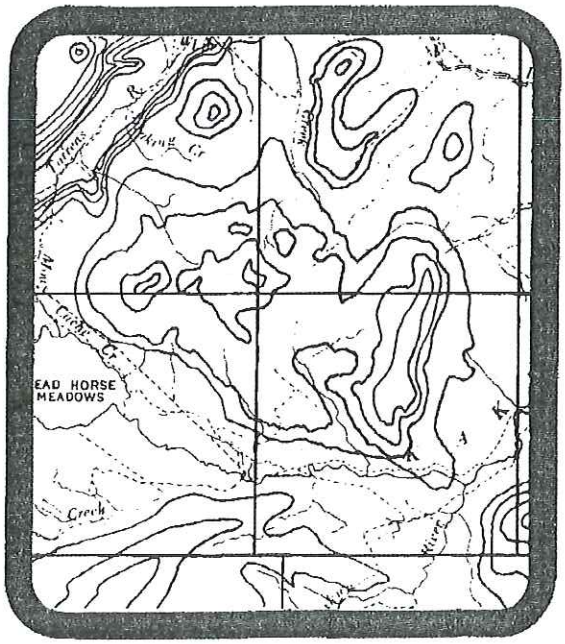
General compass directions such as these, although not exact, are accurate enough to direct a hunter who has traveled only a few miles distance, back to the campsite. Following the compass directions will bring him back to the general area where he began his trek and he will then be able to recognize landmarks which tell him exactly where camp is.

When camp has been set up beside a base-line such as river, road or railway, the hunter can easily find his way back to camp with a compass. If he is hunting north of the base-line, he knows that as long as he doesn't cross that base-line, all he needs to do to find camp is walk south from where he is and he will be in line with camp.

A compass is best used in combination with a map. The map will show which directions to take to get to a specific location. The compass will keep you walking in the right direction.

Maps

Hunters use three main types of maps for finding their way in wilderness country:

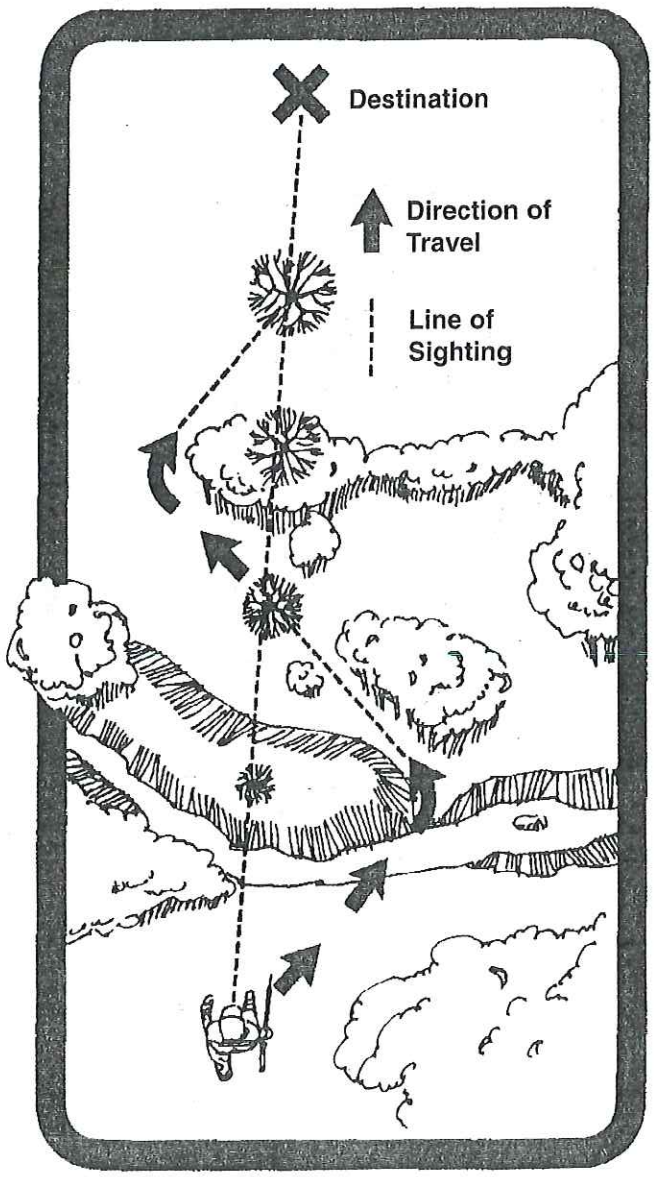


a) printed maps prepared and published by governments or private mapping firms;
b) hand drawn maps prepared by the hunter from his own observations and information received from his companions or guide based on their knowledge of the hunting area;
c) mental maps based upon the hunter's memory of the direction, approximate distances and turns he made during the hunt.

Maps tell you where you are in relation to your surroundings. Identify two or more landmarks such as lakes, mountains, ridges or high peaks, which can also be recognized and located on the map. You can then judge where you are in relation to these places.

Use of Maps and Compass

The latitude and longitude lines which form the grid framework of printed maps are aligned with true north.



A printed map shows north at the top, with latitude lines forming the top and bottom edges of the map and longitude lines, running true north and south, forming sides.

A compass points to magnetic north. For this reason, printed maps usually have a declination diagram, or state the degree of declination in the region, in the map margin. DECLINATION is simply the degree of angle formed by the intersection of a line running true north and south (longitude) and another line running toward magnetic north (meridian).

To follow a straight course by compass the hunter should carry the instrument in his hand and refer to it frequently to be sure he stays on course.

Sometimes the hunter prefers to pick out landmarks on the way to his destination, checking his course as each spot is reached. A landmark should be chosen that is on the course of the hunter's ultimate destination and one which will be visible until it is reached. On reaching the marker, he chooses another landmark in the distance and checks his bearings again with the map and compass.

In forest, a straight course can be maintained by lining up two trees and walking directly toward them. As the first tree is reached, another tree is lined up, behind and in a straight line with the second. This procedure is repeated each time another of the trees is reached.

Global Positioning System (GPS)

The concept of GPS technology was developed by the U.S. Military in the late 1960's, but the first satellite was not launched until 1978. The first hand held GPS was introduced in 1992 and the President decided to make GPS free for civilians in March 1996.

The GPS is a constellation of 27 earth orbiting satellites, each satellite makes 2 complete rotations around earth every day. At any time there are always at least 4 satellites visible in the sky. A GPS receiver's job is to locate four or more satellites, figure out the distance to each and use this information to determine where the receiver is located.

GPS receivers come in many styles, from units in cars, boats or airplanes to hand held units which is what most hunters would use. The hand held GPS receivers are very user friendly and accurate which make them a great item to carry while in the field. You can mark waypoints or plot a course on a GPS receiver. The receiver will also allow you to leave a track which will show you the exact path you have traveled on your trip. The only disadvantage with a hand held GPS receiver would be a possible malfunction or dead batteries.

Most modern smart phones have built in GPS receivers and navigation software with varying degrees of coverage and user accessibility. These phones offer navigation abilities but their software is designed to function with road maps and can have limited usability in backcountry areas away from designated roads. Phones are also powered by batteries which can go dead. For this reason, you should always carry and know how to use a compass and map for backup.

Take a reading with your compass at your staring point so you can reference later if needed.

Survival Kit

Everyone who ventures into the woods, to hunt or fish, to hike or even just for a short walk, should take along a personal survival kit. (see chapter on survival). This kit should be small and light and should be carried with you at all times. The heavier you make this kit, the more unlikely you will be to take it along. The best survival kit is one that is small and compact enough to be carried in a pocket of your jacket.

Survival Kit Components

CONTAINER-a small metal/tin container approximately 3 ½ x 4 ½ inches (8 cm x 11 cm) is a convenient size, which may also be used for cooking.

CONTAINER LID-painted a bright color so it can be found if lost with a ground to air signal card taped inside.

HANDLES-holes should be drilled in the container and handles attached for cooking.

MATCHES-long stemmed, wooden, strike anywhere matches or windproof matches with a striker.

FLINT AND STEEL

FIRE STARTER TABLET-burns approximately 6 minutes

ABSORBENT COTTON-excellent tinder, easily ignited with matches or flint and steel.

KNIFE-small pocket knife with 2 blades.

FISHING EQUIPMENT-2 spoons (red and white Len Thompson #6), 2 dry flies (Royal Coachman), 2 wet flies (Black Gnat), 2 snelled hooks (size 8), 4 lead split shot, 15 yards (4 m) monofiliment line (10 lb./4 kilo) test.

SAFETY PINS-4 assorted sizes.

NEEDLE AND THREAD

NAILS-4 assorted sizes

PENCIL AND PAPER

SNARE WIRE-3 yards (2.7 m) of copper or brass wire

OXO CUBES-2

TEA BAGS-1 or 2 small packages

SIGNAL MIRROR-with signaling instructions

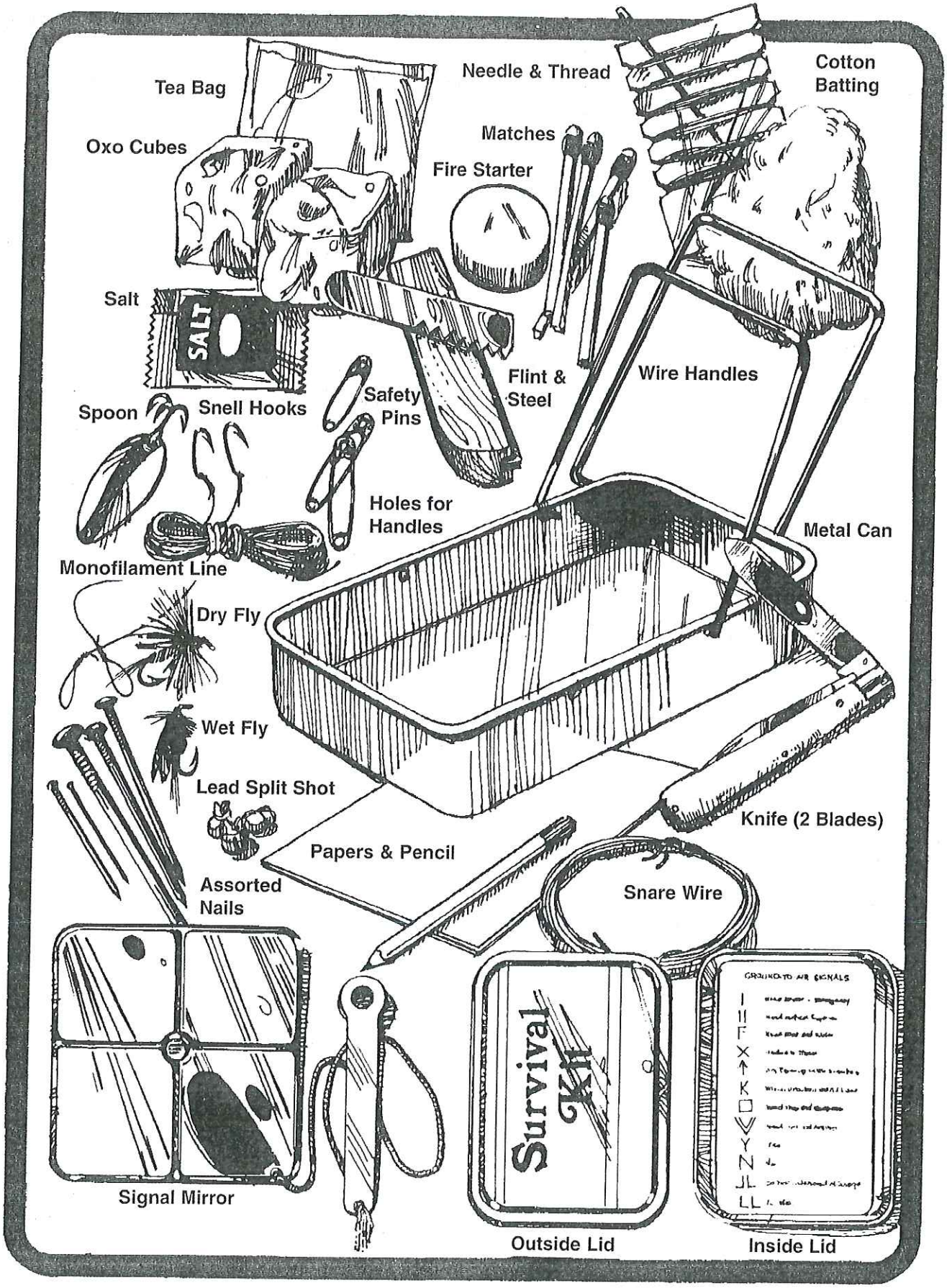
TAPE-tape lid to container with 18 inches (46 cm) of waterproof tape.

Items may be added to this list but do not include large amounts of food, cooking pots and other gear you would normally take camping.

Each time you go hunting, fishing or camping, practice using one or two items in your survival kit. This will give you confidence in your kit if you should ever need to use it.

Replace any item that has been used.

Survival Kit

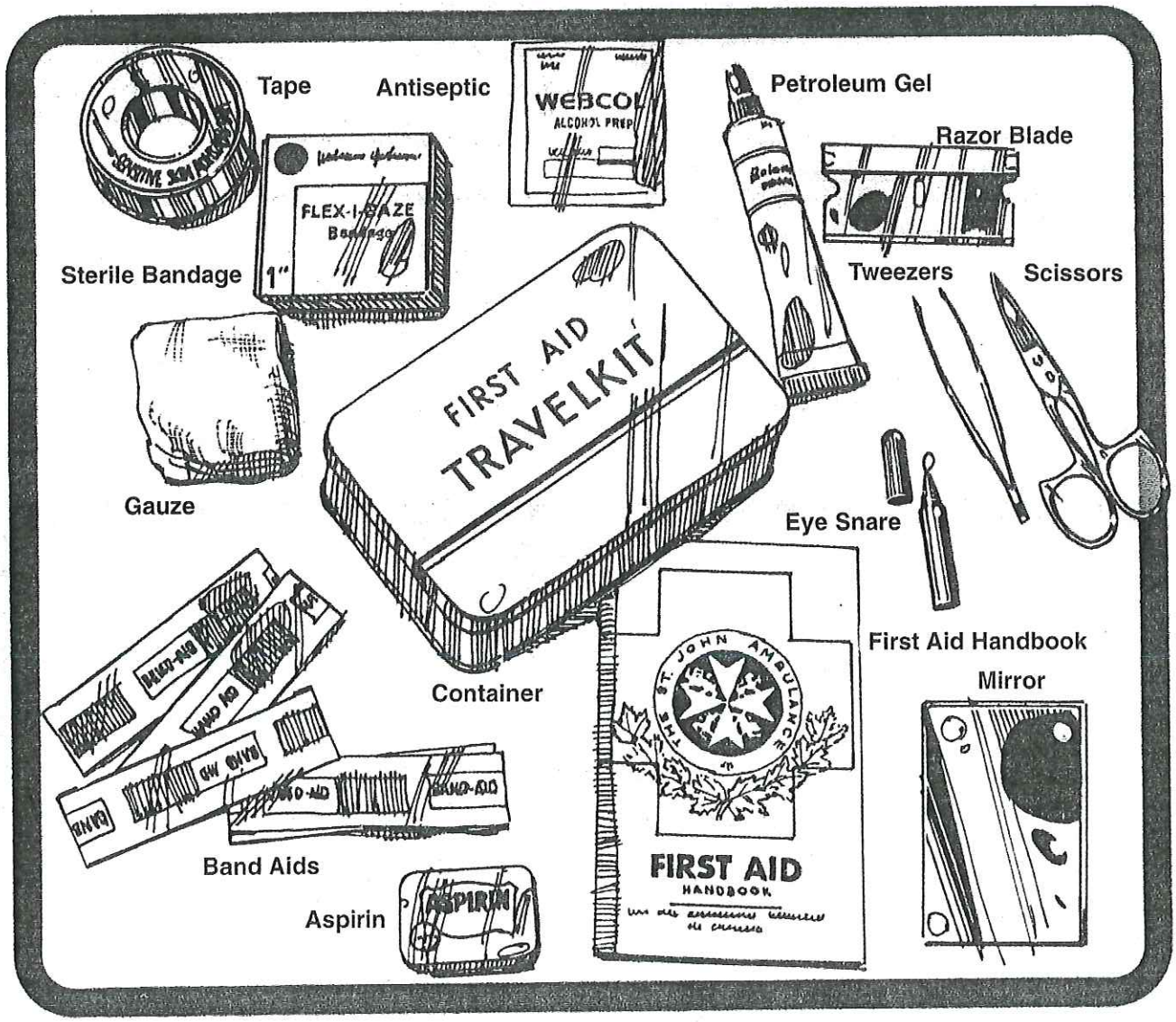


First Aid Kit

With the knowledge of first aid, you will know what to do in emergencies. If someone is injured, you can provide aid until a doctor arrives-prevent injuries from becoming more serious-perhaps save a life. Every hunter's gear should include a first aid kit. First aid kits may be purchased in a variety of sizes. However, you may want to build one yourself. Know what is in your first aid kit and how to use it.

First Aid Kit Components

First aid handbook
Bandaids-approximately 6-12
4 x 4 inch (10 cm x 10 cm) sterile bandage
Roll of gauze bandage - 1 inch (2.5 cm)
Adhesive tape - ½ inch x 5 yards (1 cm x 1.5 m)
Asprin
Petroleum gel
Antiseptic
Razor blade
Small scissors
Tweezers
Eye snare
Small mirror



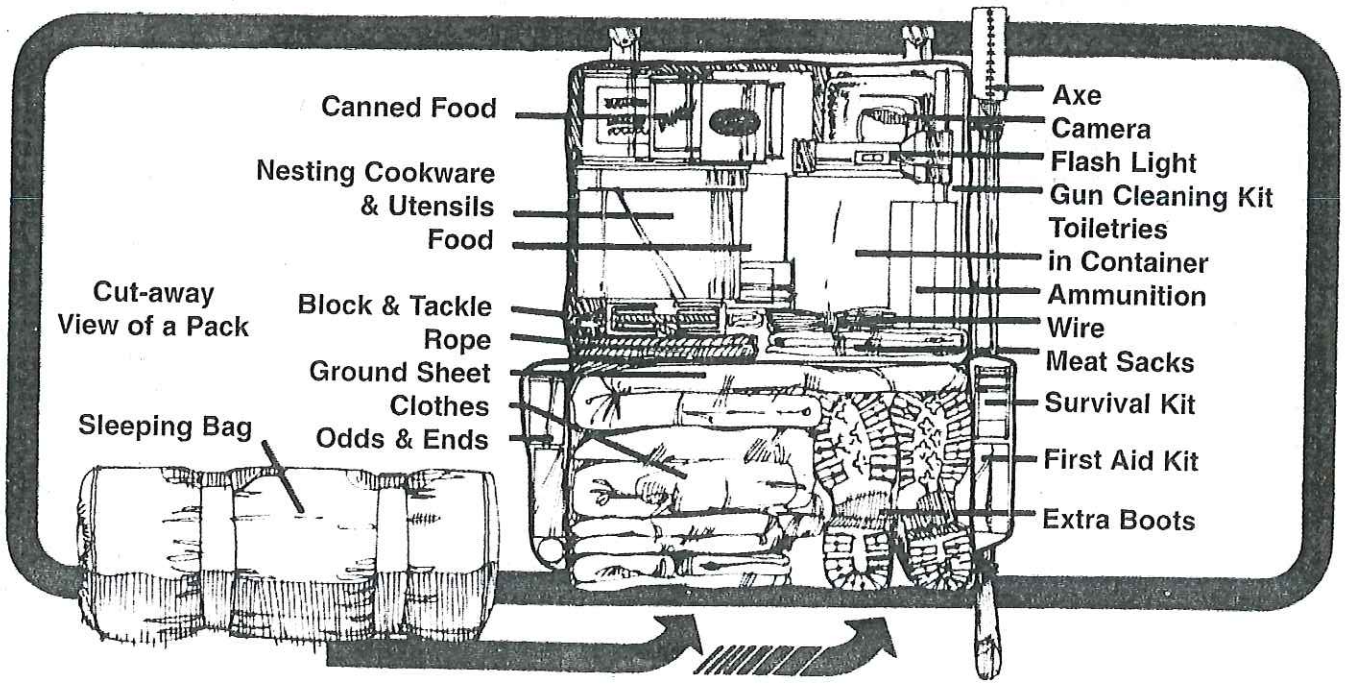
Backpacking

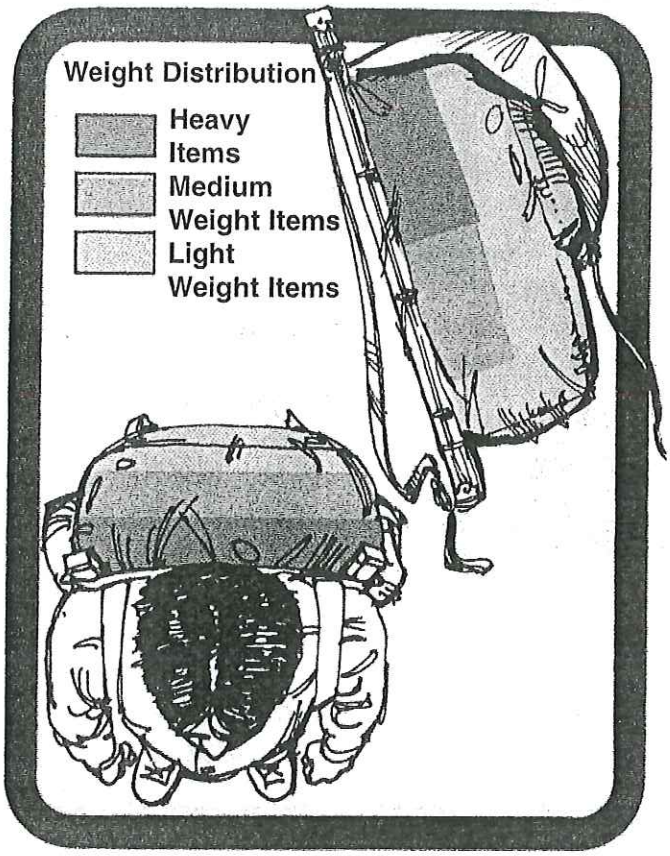
For a hunting trip lasting several days in brush or rugged mountain country, backpacking may be the only satisfactory way to carry all your gear and equipment. Backpack is a term describing the whole apparatus carried on your back. When choosing a backpack prior to a hunting trip, it is important to first consider some key factors including the length of the trip, terrain, type of game being hunted and sleeping accommodations. All these factors must be taken into account and will help determine the backpack with the right features for each type of hunting trip. Modern backpacks have many variables to consider including capacity, loading style, number of pockets, comfort, load control, durability and type of frame for larger packs (internal or external). The hunter should choose a backpack with high quality materials in the lightest forms that will work for their application. Typically, the lighter a backpack the weaker it becomes. Some experienced backpackers say young people under 14 should carry a pack of 30 pounds or less and those in their older teens can carry a pack weighing 40 to 45 pounds. Other experts say the pack can weigh up to one-third of the carrier's body weight.

There are three main designs for modern hunting backpacks. For day trips when a lot of gear is not needed, the traditional option is much like a book bag from school and is a lightweight and simple design. Most feature multiple-sized pockets, adjustable straps, camouflage designs and a compartment for hydration bladders, making them a good choice for day trips.

Traditional packboards and packsacks were the equipment of choice for generations of hunters and can still serve as a reputable option for modern hunters looking for a more rustic experience. Traditional packboards allowed for various loads or weight distributions on their external frames and used tightly stretched canvas or nylon webbing laced between the vertical sides of the frame. The webbing served as a sling to hold the pack. It cushioned the load against the back and let air in between the pack and your back to cool you. Other packboard designs were made of welded aluminum or magnesium. They usually had an adjustable hip band attached to the lower part of the frame which supports most of the pack's weight. The "Trapper Nelson" frame, a simple packboard made of heavy canvas stretched between wooden sides with a detachable bag, was the design of choice for many hunters when carrying game and other heavy loads. The load is strapped to the wooden sides which are about one to two inches thick. Shoulder straps hold the pack in place. Those who used a "Trapper Nelson" claim it holds loads closer to the body than other packs and puts the main carrying effort directly on the hips and legs rather than on the shoulders and spine. Many backpackers used a tump line for carrying extra heavy packs. The tump line fastens to both sides of the packline. It has a foam padded head rest in the center of the line which lays against the carrier's forehead. This takes some weight off the shoulder straps making heavy loads easier to carry.

In most instances, modern backpacks with external or internal frames have become the popular choice for carrying heavy gear on long backpacking trips, replacing traditional packboards and packsacks. Modern external frame backpacks utilize metals such as aluminum which lessen the weight and provide greater strength than traditional designs. External frame backpacks can handle big, bulky loads. Generally, lighter items will be packed at the bottom of the bag with heavier gear near the top so most of the weight is near the top of the shoulders and close to the body.





The pack should hang so it does not pull back on the shoulder straps. When the weight is properly distributed, there is an upward thrust from the hips and legs and a lift and pull from the shoulder harness while walking. The weight of the pack should be supported evenly by the back, shoulders and legs. The support and shoulder straps should not restrict the movements of the back or arms.

Correct weight distribution will also permit a constant flow of air between the pack and the carrier's back. Very heavy loads should be balanced so the center of gravity is high and close to the shoulders with the heaviest objects as close to the body as possible. This is the way to carry game or a heavy trophy head. When carrying game heads, they should be flagged with blaze-orange ribbon.

Internal frame backpacks are a very popular choice due to advances in modern technology and their slim and sleeker designs. Their support comes from aluminum or graphic stays mounted inside the pack bag and are often combined with a hard plastic frame sheet that protects the back and provides more rigidity. Internal frames stay close to the back and lower than externals, offering better balance. Because of their compact nature and closeness to the body, internal frame backpacks are better for rough terrain and travel off designated trials. Their formfitting profile reduces the chance of snagging against rocks or branches and will not shift side to side when attempting to circumvent obstacles.

Internal frame packs can handle heavy loads, but more of the load is shared to the shoulders than external frames. The design of internal frames allow for sleeping bags or tents to be attached to the bag's exterior but also discourage strapping a lot of gear on the outside of the pack. Padded hip belts provide additional support and relative comfortability can be achieved by adjusting the torso length and harness. Because internals ride close to the back, thick back padding or mesh made from synthetic materials will wick moisture away and keep the back cool.

No matter which type of frame, the user will also have to decide on either a panel- or top-loading backpack. In a panel-loading bag, the main compartment opens via a large, "U" shaped zipper, making these packs easy to load and organize. The front panel opens to allow for full view of contents and quick accessibility of gear. Top-loaders will need more organization but tend to be more durable and weatherproof. Contents can be added to utilize the full extent of the bag size, and most have a sleeve-and-drawstring closure to extend the volume. Some modern backpack designs offer the best of both worlds with hybrid models that load from the top and also have zippered access points throughout.

Other types of bags and packs are widely available at sporting goods stores and online retailers. Many new fanny packs fit a surprisingly large amount of gear with multiple compartments, padded supports and adjustable vertical and horizontal suspension to ensure optimal load-bearing distribution. Sling packs sling over either shoulder and are built for quick, on-the-go hunts. Blind bags made specifically for the waterfowl hunter can feature multiple types of compartments designed to keep water out and hold shotgun shells, calls and other equipment in an organized fashion. Some are designed to float in water and most will not take up a lot of space in a duck or popup blind.

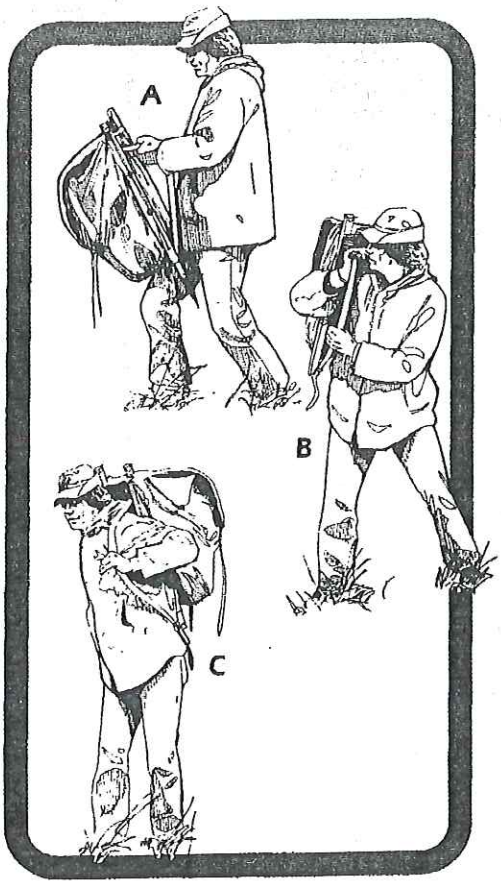
Backpacking Trips

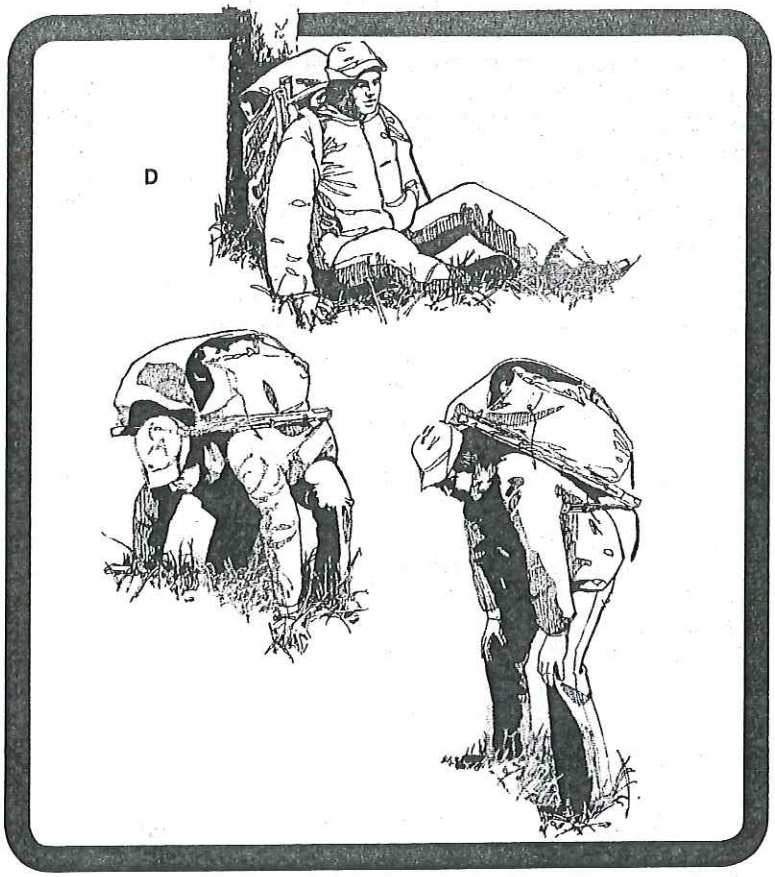
The hunter who plans to backpack should make up his pack ahead of time. Check the pack's weight and get the feel and balance of it. Then practice carrying it before starting out.

Know your weight limit. Know the weight you can carry under specific conditions such as rough ground and hilly terrain, high altitude, hot or cold weather conditions, and your physical condition—and adjust your pack weight accordingly.

The only items a backpacker should carry in his pockets are those things required from time to time during the day such as a compass, pocket knife, waterproof match box, watch and handkerchief.

The beginning backpacker should plan to spend three or four days getting acquainted with his pack, his equipment and his ability to handle it.





To Put On a Pack:

a) Lift the frame onto your thigh.
b) Put the right arm through the shoulder strap and reach down to grasp the lower corner of the frame.
c) Lift the frame high and to the left with your right hand, then put your left arm through the left strap.
d) To get up with a very heavy load, lean the pack against something so it sits upright. Sit down and put shoulders in straps. Tuck one foot under the other leg and fasten hip band loosely. Roll onto hands, knee and foot in the same motion, stand up. Once up, hunch shoulders to raise load and tighten hip band.

To Take Off a Pack:

If you cannot readily swing out of the loaded pack frame harness, sit down and rest the frame on the ground or on a large rock and then slip out of the harness.

Sportsman's Check List

Big Game Hunt

Firearm Season

- ❑ Firearm
- ❑ Spare Firearm
- ❑ Rifle Cases
- ❑ Ammunition
- ❑ Rifle Cleaning Kit
- ❑ Hunting Regulations
- ❑ Hunting License
- ❑ Game Tags
- ❑ Spotting Scope

Archery Season

- ❑ Bow
- ❑ Extra Bow String
- ❑ Hunting Arrows
- ❑ Spare Broadheads
- ❑ Broadhead Cement
- ❑ Broadhead Sharpening File
- ❑ Field Arrows
- ❑ Bow Quiver
- ❑ Bow String Silencers
- ❑ Brush Deflectors
- ❑ Bow String Wax
- ❑ Bow Tip Protector
- ❑ Armguard
- ❑ Shooting Glove or Tab
- ❑ Camouflage Bow Cover
- ❑ Camouflage Outfit
- ❑ Archery Regulations
- ❑ Archery License
- ❑ Release Aid

Include on Above Hunts

- ❑ Binoculars
- ❑ Compass
- ❑ Sheath Knife and Belt
- ❑ Pocket Knife
- ❑ Whetstone
- ❑ Map of Hunt Area
- ❑ Black and Tac
- ❑ Bone Saw
- ❑ Meat Sacks
- ❑ Bulk Salt
- ❑ Plastic Bags
- ❑ Rope and Wire
- ❑ Packboard
- ❑ GPS

Upland Game and Water-fowl Hunt

- ❑ Shotgun
- ❑ Shotgun Case
- ❑ Shotshells
- ❑ Cleaning Kit
- ❑ Pocket Knife
- ❑ Hunting Regulations
- ❑ Hunting License
- ❑ Decoys
- ❑ Calls
- ❑ Waders or Hip Boots

Personal Gear

Clothing

- ❑ Duffle Bag
- ❑ Inner Socks
- ❑ Wool Socks
- ❑ Boots
- ❑ Camp Shoes
- ❑ Long Underwear
- ❑ Wool Shirt
- ❑ Sweater
- ❑ Trousers
- ❑ Hunting Jacket
- ❑ Vest
- ❑ Cap or Touque
- ❑ Gloves or Mitts
- ❑ Rain Gear
- ❑ Silicone Boot Dressing
- ❑ Spare Boot Laces

Toilet Articles

- ❑ Comb
- ❑ Hand Soap
- ❑ Razor
- ❑ Shaving Cream
- ❑ Toothbrush and Toothpaste
- ❑ Towel and Washcloth

Other

- ❑ Camera and Film
- ❑ Sunglasses
- ❑ Pencil and Notebook
- ❑ Alarm Clack
- ❑ Sewing Kit
- ❑ First Aid Kit
- ❑ Survival Kit
- ❑ Sun Screen
- ❑ Insect Repellent

Camping Gear

Shelter

- ❑ Tent
- ❑ Tarp
- ❑ Sleeping Bag
- ❑ Foam Pad or Air Mattress

Cooking

- ❑ Camp Stove and Fuel
- ❑ Cooking Utensils
- ❑ Matches
- ❑ Cooler
- ❑ Water Cans
- ❑ Food

Lighting

- ❑ Lantern and Fuel
- ❑ Extra Mantles
- ❑ Flashlight
- ❑ Flare Gun and Flares

Tools

- ❑ Axe
- ❑ Buckets
- ❑ Hammer and Nails
- ❑ Rope and Wire
- ❑ Shovel
- ❑ Tool Kit