



Above & Beyond

Scouting Skills Resource Guide

KNIFE, AX, AND SAW

Introduction

To earn the certification, the Scout must show his Scout leader, or someone designated by his leader, that he understands his responsibility to do the following:

- Read and understand woods tools use and safety rules from the Boy Scout Handbook.
- Demonstrate proper handling, care, and use of the pocket knife, ax, and saw.
- Use the knife, ax, and saw as tools, not playthings.
- Respect all safety rules to protect others.
- Respect property. Cut living and dead trees only with permission and with good reason.
- Subscribe to the Outdoor Code.

[Totin' Chip/Firem'n Chit Score Card](#)

The Scout's 'Totin' Rights' can be taken from him if he fails in his responsibility. (In most troops, they tear off a corner from the wallet card for any minor infraction. When all four corners are gone, the scout loses his totin' rights. In Troop 780 we tear off 3 corners of the wallet card when the scout is first presented with it. This is done because an infraction can be dangerous when involving knives, axes, etc. and troop 780 is so safety conscience, our scouts don't get a second chance and have to earn the privilege again.)

Knife Safety

Acceptable Troop 400 Knives

Folding, non-serrated, single locking blade, no longer than 3¼ inches, with belt sheath.
***NO EXCEPTIONS**

Using Your Pocketknife

The best multipurpose knife for outdoor use has one or two folding blades for cutting, and special blades for opening cans, driving screws, and punching holes. However, see the Troop 400 Rules on acceptable knives above.

Always follow these rules for safe knife use:

DO:

- Keep the blades closed except when you are using them
- Cut away from yourself.
- Keep your knife sharp and clean. A sharp blade is easier to control than a dull one; a clean blade will last longer.
- Close the blades before you pass a knife to someone else.

DON'T

- Carry a knife with the blade open.
- Cut toward yourself. If the blade slips, you may be injured.
- Pound on a knife handle or blade with another tool. The knife may break.
- Throw a knife.
- Pry with the point of a cutting blade. It can snap off.
- Put a knife in a fire. New knife blades are hardened, or tempered, with just the right amount of heat. Reheating them may ruin the temper and weaken the knife.

Caring for your pocketknife

Most pocketknives are made of a strong steel alloy that won't rust. However, dirt and lint can collect inside, and ordinary use will dull the blades.

Cleaning a pocketknife.

Open all of the blades, taking care not to nick your fingers. Twirl a small bit of cloth or paper towel onto the end of a toothpick. Moisten it with oil and wipe the inside of the knife. Be sure to clean the joint at the base of each blade. Swab out excess oil with a clean cloth. If you have used your pocketknife to cut food or spread peanut butter and jam, wash it in hot, soapy water along with your dishes.

Sharpening

Sharpen your knife with a whetstone. Most whetstones are made from granite and other materials harder than knife metal. Some are covered with diamond dust. Stones are used dry or with a few drops of water or honing oil. Hold the blade against the stone at an angle of about 30 degrees. That means the back of the blade is tilted off the stone one-third of the way to vertical.

Push the blade along the stone as though you were slicing a layer off the top. The stone's gritty surface will sharpen, or hone, the blade much the same way sandpaper smooths wood. To sharpen the other side, turn the blade over and pull it along the stone toward you. Clean tiny bits of metal off the stone by slapping it on your hand or pants leg.

Work the blade back and forth across the stone several more times. Wipe the knife with a clean cloth and look directly down at the edge of the blade in the sun or under a bright light. A dull cutting edge reflects light and looks shiny. A sharp edge is so thin that it has no shine at all.

About the worst thing that happens to pocketknives is that they get lost. Keep track of yours by using a bowline knot to tie a 3-foot length of cord to the ring in the handle. Use another bowline to tie the other end to a belt loop of your pants. Your knife will always be within easy reach. Or you can thread a brightly colored shoestring through the ring and tie the ends in a square knot. That splash of color will help you find your knife if you drop it in grass, leaves, or snow.

Saw Safety

Saw teeth are needle-sharp. Treat every saw with the same respect you give your pocketknife. Close folding saws when they aren't in use and store them in a tent or under the dining fly. Protect the blade of a bow saw with a sheath made from a piece of old garden hose the length of the blade. Slit the hose down on one side, slip it over the blade, and hold it in place with duct tape or cord. You can carry a folded camp saw inside your pack. With its sheath covering the blade, tie a bow saw flat against the outside of your pack.

Camp Saw

A camp saw is the right tool for most outdoor woodcutting. The blades of folding saws close into their handles, much like the blades of pocketknives. Bow saws have curved metal frames that hold their blades in place.

Using a Camp Saw

Brace the wood to be cut against a solid support. Use long, smooth strokes that let the weight of the saw pull the blade into the wood.

When sawing a dead branch from a tree, make an undercut first, then saw from the top down. The undercut prevents the falling branch from stripping bark and wood from the trunk. Make a clean cut close to the trunk so you don't leave an unsightly "hat rack". Cut saplings level with the ground so there's no stumps for someone to trip over.

Saw Sharpening

Touch up the teeth of your saw with a small triangle file or ignition file. Put on leather gloves to protect your hands, and then stroke the file upward following the shape of each tooth. Sharpen one side of the saw, then the other.

The teeth on the saw blades are set - bent so they cut two thin grooves in the wood and then rake out the shavings between the grooves. Even with the best care, the teeth will slowly lose their set. A saw without set binds in the wood, making cutting difficult. Fortunately, bow saw and folding saw blades are replaceable and are not very expensive. Take along a spare blade if you will have a lot of cutting to do.

Ax Safety

Because of its size and the way in which it is used, an ax can be more dangerous than other wood tools. Remove the sheath only when you are prepared to use your ax correctly. Give it your full attention.

Safe tool.

An ax must be sharp and in top condition. If the head is loose, soak the ax for a few hours in a stream or a bucket of Linseed oil (Tip thanks to Jeff Starks, Troop 24). The wood in the head will swell, and the handle will be tight for a while. Linseed Oil or Flax Seed Oil doesn't dry out as quickly as water, thus making it safer. When you are home, drive a wedge into the wood in the head, or replace the worn handle with a new one.

Safe shoes.

Always wear sturdy leather boots when you are chopping with an ax. Leather won't stop a blade from hitting your foot, but good boots may limit the extent of an injury.

Safe working area.

You must have plenty of room in which to swing an ax. Check your clearance by holding your ax by the head. Slowly swing the handle at arm's length all around you and over your head. Remove any brush or branches that the handle touches. While you are cutting, be certain other people stay at least 10 feet away.

In a long-term camp using lots of firewood, rope off an ax yard large enough to provide the clearance you need to work. Enter the yard only to chop and saw wood. Allow just one person at a time in the ax yard. Clean up the chips, bark, and other debris of cutting.

Safe technique.

Chopping branches off a downed log is called limbing. Stand on the right side of the log opposite a branch. Chop close to the base of the branch, driving the ax into the underside of the limb. Keep the log between you and your cuts. If the ax misses a branch, the blade will hit the log rather than your leg.

Bucking a log means cutting through it. Stand beside the log with your feet shoulders'-width apart. Hold the ax with one hand near the head and then slide your hands together as you swing the bit into the log. Let the falling weight of the ax do most of the work. Slide your hand back down the handle to the head. Lift it and swing again. Aim your strokes so that you cut a V shaped notch twice as wide at the top as the log is thick.

Learn to switch-hit with your ax. As you cut on the right side of a notch let your right hand slide on the ax handle. Switch your grip and slide your left hand up the handle as you work from the left side of a notch. Develop a relaxing easy rhythm, switching hands after each blow.

Cutting small sticks and splitting large chunks of wood known as rounds are best done on a chopping block, which is a piece of log that has been sawed and turned upright to provide a flat surface. It should be about 2 feet high so that you won't have to lean down much as you work. A chopping block is important for safety too. If you swing your ax badly, the bit will probably hit the block instead of flying on toward your feet.

To split a large round of wood, stand it upright on a chopping block. Swing the ax as you would to buck a log, driving the bit into the end of the round. If the wood doesn't split, remove the ax before swinging it again. Do not swing an ax with a piece of wood wedged on the bit.

Safe carrying.



Place a sheath over an ax blade whenever it is not in use. Carry an ax at your side with one hand, the blade turned out from your body. If you stumble, toss the ax away from you as you fall. Never carry an ax over your shoulder.

Safe storage.

Sheathe your ax and store it under the dining fly or in a tent. On the trail, a sheathed ax can be tied or strapped to the outside of your pack.

Safe handling.

To pass an ax to another person, hold the handle near the knob with the head down. Pass the ax with the bit facing out at right angles between you and the other person. When your partner has a grip on the handle, he should say, "Thank you." That's your signal to release your hold.

Sharpening an Ax

Keep your ax sharp with a mill bastard file 8 or 10 inches long. The lines across the face of the file are the teeth. They angle away from the point, or tang. A sharp file will be a drab gray color. A silvery shine means a file has broken teeth that won't sharpen very well.

Whenever you sharpen with a file, wear leather gloves to protect your hands. Also, make a knuckle guard from a 3-inch square of leather, plywood, or an old inner tube. Cut a small hole in the center of the guard. Slip it over the tang and hold it in place with a file handle. Buy a handle at a hardware store or make one from a piece of wood or a corn cob.

Brace the ax head on the ground between a small log and two wooden pegs or tent stakes. Another Scout can help hold the ax handle steady. Place the file on the edge of

the blade and push it into the bit. Use enough pressure so that you feel the file cutting the ax metal.

Lift the file as you draw it back for another stroke. A file sharpens only when you push it away from the tang. Dragging the file across the blade on the return will break off the teeth and ruin the file.

Sharpen with firm, even strokes. After you have filed one side of the bit from heel to toe, turn the ax around and do the other side. Under bright light a dull edge reflects light. Continue to file until the edge seems to disappear. Filing can leave a tiny curl of metal called a burr on the edge of the bit. Remove the burr by honing the bit with a whetstone just as you would the blade of a pocketknife.

Totin' Chip Rules

1. Read and understand the Boy Scout Handbook information on safe use of wood tools.
2. Demonstrate proper handling, care, and use of the pocketknife, ax, and saw.
3. Knives, axes, and saws are serious tools. Use them only when you are willing to give them your full attention.
4. Respect property. Cut living and dead trees only with permission and with good reason.
5. Use wood tools in such a way that you leave no trace.

The Outdoor Code

As an American, I will do my best to -

- **Be clean in my outdoor manners.**
 - I will treat the outdoors as a heritage.
 - I will take care of it for myself and others.
 - I will keep my trash and garbage out of lakes, streams, fields, woods, and roadways.
- **Be careful with fire.**
 - I will prevent wildfire.
 - I will build my fires only where they are appropriate.
 - When I have finished using a fire, I will make sure it is cold out.

- I will leave a clean fire ring, or remove all evidence of my fire.
- **Be considerate in the outdoors.**
 - I will treat public and private property with respect.
 - I will use low-impact methods of hiking and camping.
- **Be conservation minded.**
 - I will learn how to practice good conservation of soil, waters, forests, minerals, grasslands, wildlife, and energy.
 - I will urge others to do the same.