

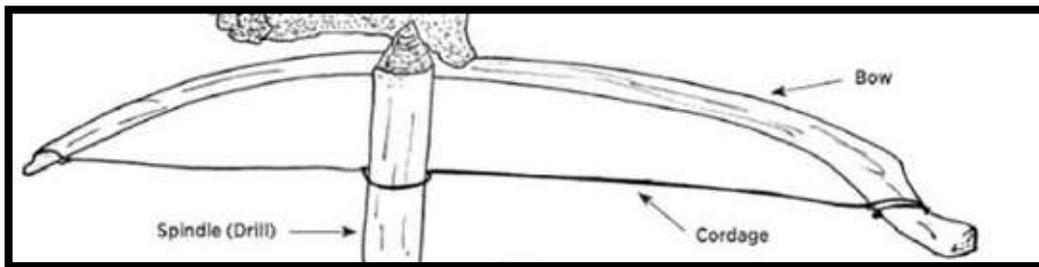
S.A.L.T. SKILL CHALLENGE by Thomas Robins

THE BOW DRILL SET



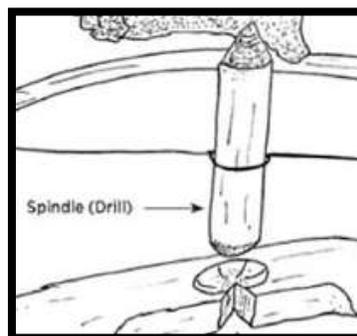
There are 5 components needed for a Bow Drill Set to make friction fire, a Bow, a Spindle, a Hearth Board, a Bearing Block and a dry Tinder Bundle.

THE BOW: A branch or piece of any wood like fresh willow or pine that is rigid and bendable with a snap or life to it, not brittle or dead, works best. Even a fresh rib bone will work. The bow should be a couple of feet in length.



The Cordage for the Bow String should be made from a strong fiber such as sinew, dogbane, agave, flax or nettle. Leather/buckskin, a cotton shoelace or nylon or para-cord works, too. Make small notches in each end of the bow and tie the string to the bow as shown above.

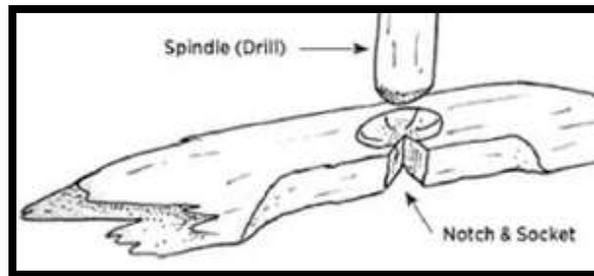
THE SPINDLE: A piece of clear (knot-free) medium hard wood like seep willow, yucca, sotol, bear grass, saguaro rib, cottonwood, etc., 6 to 10 inches long and about $\frac{3}{4}$ of an inch in diameter will do.



Make one end slightly pointed for the hand-hold and the other end rounded with a small cup or indentation in the center for the socket in the hearth board.

THE HEARTH BOARD: A flat piece of wood at least 6 inches long, 2 inches wide and $\frac{3}{4}$ inch thick. Medium or medium-soft woods work best like cottonwood, elm, basswood, agave, sotol, saguaro rib, etc.

Hard woods are too dense to make char dust and soft wood like pine will burn through before creating an ember.

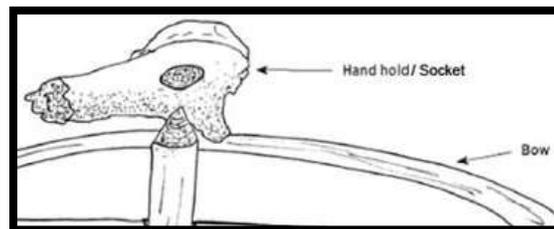


Make a socket near one edge and cut a v-notch into the edge of the socket about a quarter of the way in. Then, undercut the v-notch a little to open it up to let air in.

If the v-notch is cut too thin, there is not enough area for the char dust to drop and ignite. If the v-notch is cut too wide, the spindle will slip out.

Place a leaf or thin piece of bark or wood under the v-notch and hearth board to catch the char dust ember.

THE BEARING BLOCK: It can be made out of the same wood as the hearth board or any hard, green wood, an antler, a smooth stone, soapstone or sea shell as long as the spindle fits into a socket and it's comfortable to hold.



Put tallow, ear-wax or other oils onto the slightly pointed end of the spindle and into the bearing block socket to stop friction and keep it from burning through under your hand.

THE TINDER BUNDLE: Be sure to have a DRY tinder bundle ready before you start. Shredded bark (cedar bark), jute or hemp rope and dead grasses make a good outer nest. Put cattail down, dandelion fluff, myah dust (pine pitch saw dust) or similar tiny particles in the middle of the nest to put the ember in. Found old dried-out bird nests work, but do NOT use packrat or mouse nests, they may carry Hanta Virus or fleas, etc.



Making Fire with a Bow Drill

by Dino Labiste from www.primitiveways.com



Place a leaf or thin piece of wood or bark underneath the v-notch in the hearth board to catch the char dust.

In the photo above, twist the spindle into the bow string and notice that the string closest to the left hand holding the bow is underneath the other half of the string. The left thumb is used to push down on the string to separate the string as the spindle is rotating. This keeps the string from abrading each other.

Also in the photo above, the right foot is placed on the hearth board and the right wrist is locked into the shin of the right leg to stabilize the rotating spindle.



The continuous sawing motion of the bow causes the rotation of the spindle to generate enough friction in the hearth board socket to create char dust.

Next, apply more downward pressure by pushing down on the bearing block to raise the temperature in the socket and it will begin to smoke and turn the char dust into an ember.



Carefully transfer the glowing ember from the leaf to the tinder bundle.

The white, cattail down in the tinder bundle of the above, left photo will help to extend the fire of the ember. Blow into the tinder bundle to add oxygen and increase heat of the ember.



Continue blowing until the tinder bundle bursts into flames.

The spindle used in this demo was California Buckeye, the hearth board was Incense Cedar, the wooden bow was willow and the string was made from Flax, the bearing block was from a piece of Soapstone and the tinder bundle was from the bast fibers of Cottonwood with some Cattail Down in the middle.