

Survival – Fire Lighting



Being able to create fire is a necessity very often overlooked in today's modern world. With advances in military technology, the modern day soldier is certainly well equipped in both weaponry and personal protection. There are a vast array of new military vehicles – both ground based and aircraft to get troops from point A to B whilst providing more protection. This is all great, but what if you are in a position where you have lost all of this? What if your mode of transport crashes in a remote area, or what if you find yourself on the run with nothing more than the clothing that you stand up in? Technology and equipment is all well and good until you don't have it any more – then it is back to the very basics.

Fire is important for a number of reasons. First and foremost, a fire will provide warmth and protection. Fire makes it possible to purify water by boiling and enables food to be cooked. It is not always tactically possible to light a fire, but sometimes the pros and cons on whether one should be lit will need to be weighed up against the risks of detection. Lighting a fire just to keep warm really can be a life saver.

So, say you have found yourself in a situation where a fire is required but you don't have any matches or a lighter.....what can you use instead?

The phrase 'rubbing two sticks together' is sometimes quoted by people as some kind of generalisation to the practice of survival skills. The quote almost mocks the practice and makes creating fire by friction sound easy. This couldn't be further from the truth as the technique of using friction between two pieces of wood to make fire is extremely challenging – but when fire is produced from this method, very rewarding.

Making a 'fire bow and drill' set will give you all of the tools that are needed to create a fire without the aid of matches or a lighter. There is a considerable amount of written material in circulation that gives instruction on what specific types of wood are required to make the bow and drill set, but in reality, you will have to use whatever wood is available to you. However, some basic knowledge on the most common types of tree species would be of benefit – it might not seem relevant to most people, but this extra knowledge can be quite useful. The wood used in this example to start a fire was sycamore.



A sycamore drill and base board with a bow and hand block

There are four components that make up a fire bow and drill set. These are the bow itself, drill, base board and hand block. Getting the detail right is really important when making this set as there are lots of little detail and technique that will make the difference between the set working or not.

What you are looking for is a length of dry dead standing wood. The wood should give a dry 'crack' when you snap it which will indicate that it is dead. Green wood will not work as well because there will be too much moisture within it. The bow should measure between 2 and 3 centimetres in diameter and 50 centimetres long. Paracord can be used as the string and should be tied firmly to each end of the bow whilst keeping the length of cord in the middle slightly loose. The drill needs to be about 20 centimetres long and at least a fingers thickness in diameter. It is important that the drill is as straight as possible and has points carved at both ends. The base board is made from a split piece of wood with a diameter that is slightly greater than the drill. The length of the base can be around 30 centimetres which will allow enough room for it to be stood on and held in place when using the bow and drill. The next thing to do is carve a circular indent into the base - this is where the end of the drill is placed. The final piece is the hand block and this is just a small block of wood that fits into the palm of a hand and is used to apply downwards pressure on to the drill. Like the base, a circular indent needs to be carved into the hand block that will hold the top end of the drill.

The Technique

Now all of the parts have been sourced, the set needs to be 'burned in'. To do this, kneel down and place the base onto the ground, clamping it down with your foot. Next, take the bow and loop the drill into the cord (which should now be tight). One end of the drill is placed into the indent on the base board and the other end into the hand block. Now whilst holding the block in one hand and the bow in the other, balance the drill vertically and start to move the bow in a forewards and backwards motion. The drill will now start to rotate and as it does, gradually increase the pressure downwards which will create more friction between the drill and base. After a minute or two a scorched hole will begin to develop in the base board. When this appears, stop drilling and cut a 'V' shaped notch from the side of the base board into the burned circle. This notch is where the hot coals that are created from the friction will fall clear and onto the ground. Place something like a piece of bark underneath the notch to act as a tray and catch the coals.



'Burn in' the drill hole



Cut a notch into the side of the base



Adopt a stable position to maximise efficiency

Once the notch has been cut, the set is now ready to be used. Adopting the correct position will make bowing easier. Use your forward leg to support the arm which is holding the hand block as this will keep the drill up straight. Make sure that your rear leg is well behind the other to allow the bowing arm an unobstructed line of motion. Sometimes, the drill will slip out from the hole in the base and fly off. This can be frustrating but with practice and a fluid bowing motion things will improve. Start slowly and make sure to use the full length of the bow. After a few minutes a small amount of smoke will start to rise from around the hole in the base. Continue to bow and slightly increase the speed. After another few minutes, the volume of smoke will increase. Keep bowing harder until the smell of the smoke becomes quite strong and the colour of the smoke darkens slightly. When you notice this change, stop bowing and remove the drill from the base. You will now see a pile of black coals that should be glowing red on the tray. Gently blow on the glowing coals to encourage the ember to grow and then gently lift the base board away. Now lift the coals up using the tray and place inside the tinder material that you have made ready for your fire. Gently blow through the tinder which will start to smoke heavily before eventually igniting. You now have fire.



Smoke starting to rise from the base board of a hazel wood set



This is what you are after - smouldering coals



Gently place the glowing coals into the tinder



Fire by friction

Tips

- Burn the initial hole at least 50mm into the base board
- Only cut the notch to the edge of the drill hole and make the notch wider underneath
- Control the tension on the bow string to increase the grip around the drill.
- Use a small piece of bark or a leaf as a tray to catch the smouldering coals
- Have the tinder and fuel ready to take the coals

This method of fire lighting does require lots of practice to get it right. Don't give up when it doesn't work – keep trying and you will master it.