FIRESTARTER SECRETS

HOW TO START, MAINTAIN AND USE FIRE AS A TOOL

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Inside This Report

INTRODUCTION

Fire.

The single most destructive and yet productive element of nature that man has ever harvested.

From the moment man first realized that he could create and harness a flame a primal link was created between the two.

For ancient man, fire provided warmth, a hot meal, protection from predators, and a way to light the darkness…

The skill of fire crafting is something that was passed down from generation to generation for millennia.

It was a right of passage for many a man.

Our ancestors lived and died by the ability to create a fire.

The average Boy Scout knows at least 10 different ways to get a roaring campfire going.

Do You?

Sadly, Boy Scout's are a dying breed nowadays.

In this high-speed world we live in today, most parents don't think they have the time do take their children to scout meetings, or even on weekend camping trips.

This leaves us in a very vulnerable place….

Somewhere along the way (most likely between the age of the electric stove and the creation of jiffy pop) we have lost the

drive to create our own fires.

We think we are safe and sound in the protection of modern society. But we all know that we are only one single flip of a switch or one natural disaster away from being left in the dark.

In a world where electricity and natural gas are no longer an option, there is one skill that can make or break you.

If you have fire you have:

A hot, safe meal

The ability to preserve food for long term storage

A way to make clean drinkable water

A way to stay warm on the coldest, darkest winter night

The ability to light your way and move without fear of predators

A way to signal for help

And so much more.

Without fire, you won't last long…

Could you survive in a world where you live or die based on your ability to create, mend, and tend a fire?

First things first…

WHAT DO YOU NEED IN ORDER TO HAVE FIRE?

Before we get into the list, its important to make sure you have an understanding about what fire actually is so that you can give yourself the best chances of success when you use each of the listed techniques.

Unless your body happens to spontaneously combust, fire typically doesn't just spring forth out of thin air. To make fire requires some very specific circumstances; without them, the fire won't start, let alone keep burning.

There are three essential ingredients for any fire; they are:

- ✓ Oxygen—Fortunately for us, this is all around us, so we don't need to go looking for it
- ✓ Fuel—This means the stuff we are going to burn
- ✓ Heat—People mistake this all the time. It is heat, not a spark or flame that creates fire.

When enough heat is applied to fuel in an oxygen-rich environment, fire happens. That heat can come in a number of ways; such as through a spark, through friction, through focused light, or from an already existing fire, but we will get to that later.

PREPARING FUEL FOR YOUR FIRE

While there are only three ingredients required to start a fire, how those ingredients are used provides a world of variety. In fact, how two of those ingredients are used provides the world of opportunity, as the first one, oxygen, is already there; assuming you're not going to have to start a survival fire on the moon.

Again, getting a wood fire to start burning is a little more complicated than just providing heat to wood. If you hold a match up to a log, you're not going to accomplish much, other than a slight singe of its bark.

Of course, you could solve that problem if you had a flamethrower, but those are a little hard to come by, and not very practical to carry around in your survival kit. The basic problem here is that most fire starting methods don't provide enough heat to raise the temperature of the fuel high enough to start and sustain combustion. Think about it for a minute. You've got a bathtub full of ice cold water and want to take a bath, so you pour your cup of hot coffee in it. How much warmer is that one cup of coffee going to make the bath water? All you've really accomplished is wasting your cup of coffee.

The same thing happens when you hold a match up to a log. That little flame coming off the end of the match doesn't provide enough heat to bring the log up to a high enough temperature to start burning. On the other hand, if you hold that match up to a small twig, it will almost immediately burst into flames. The only real difference between the two is the size. To be successful in starting a fire, you have to start out by burning fuel that is small enough to catch fire. Once that is burning, it can be used to

start larger fuel burning. This is a standard fire starting technique.

Basically, there are three levels of materials used in starting most fires:

TINDER **KINDLING** **FUEL**



Tinder is material that will catch fire quickly and easily. This is essentially the heart of your fire. You need to start your tinder bundle before anything else becomes an option. Provided that the tinder bundle is completely dry, it should take a spark relatively easily and will be quick to ignite, but, it won't stay burning for long, as it is consumed quickly by the fire. Therefore, all that tinder does is to pass the fire on to larger types of fuel. We'll talk more about different types of tinder later.

Kindling is the first real fuel that is burnt in a fire. It consists of sticks and small branches, generally no bigger around than your thumb. You need to be able to get your kindling to burn before your tinder runs out. While it provides a good fire, once again, it burns quickly due to the small size.

Fuel logs logs are the backbone of your fire, these are the larger branches and stumps that are used to keep the fire burning for a prolonged period of time. The bigger the log, the longer it will burn. For that matter, the type of log it is will also make a difference, as different types of wood burn at different rates. If you really want a good fire that will last for a long time, use hardwoods.

Tinder	Kindling	Fuel
Birch bark	Small twigs	Dry, standing wood & dry, dead branches
Shredded inner bark from cedar, chestnut, red elm trees	Small strips of wood	Dry inside (heart) of fallen tree trunks & large branches
Fine wood shavings	Split wood	Green wood that is finely split
Dead grass, ferns, moss, fungi	Heavy cardboard	Dry grasses twisted into bunches
Straw	Pieces of wood removed from the inside of larger pieces	Peat dry enough to burn (this may be found at the top of undercut banks)

Tinder	Kindling	Fuel
Sawdust	Wood that has been doused with highly flammable materials, such as gasoline, oil, or wax	Dry animal dung
Very fine pitchwood scrapings		Animal fats
Dead evergreen needles		Coal, oil shale, or oil lying on the surface
Punk (the completely rotted portions of dead logs or trees		
Evergreen tree knots		
Bird down (fine feathers)		
Down seed heads (milkweed, dry cat-tails, bulrush, or thistle)		
Fine, dried vegetable fibers		
Spongy threads of dead puffball		
Dead palm leaves		
Skinlike membrane lining bamboo		
Lint from pocket and seams		
Charred cloth		
Waxed paper		
Outer bamboo shavings		
Gunpowder		
Cotton		
Lint		

What can you use for tinder, kindling, and fuel?

All of the material in your soon-to-be-fire needs to be piled up in such a way so that the fire can easily move from the tinder to the kindling to the fuel. The easiest way to do that is with a 'pyramid' or 'tee-pee type configuration, where the tinder is on the bottom, with a layer of kindling over it and the fuel above that. Make sure that there is plenty of room for air to pass between the various pieces; otherwise you won't have enough oxygen to make the fire burn.

With a properly laid fire, you can strike a match or spark to the tinder and get it burning. Once the first flame starts, the rest of it should work more or less automatically, with your fire eventually lighting the fuel. Once the fuel is burning well, all you need to do is add additional fuel from time to time.

Of course, if the wood being used for the fire is damp at all, it will take much longer to burn (if it will at all). The reason why it won't burn is that the water contained in the wood is absorbing the heat, preventing the wood from absorbing enough heat to ignite. As heat continues to be applied to the wood, the water turns to vapor, absorbing a huge quantity of heat in the process. It isn't until this process is finished that the hydrocarbon gasses start leaving the wood so that they can then catch fire.

Basically your best bet is to make sure that you have the driest tinder, kindling, and fuel possible.

How to find dry tinder

The first step to ensuring you have a successful fire starts with your tinder.

Unless you have dry tinder to start with, starting a fire will be nearly impossible.

You're first guarantee to have dry tinder is to bring it with you.

Things like toilet paper, dryer lint, and cotton balls are all very cheap and effective forms of tinder.

Just make sure that you waterproof them, by keeping them in waterproof containers or Zip lock bags.

You can also dip the dryer lint and cotton balls in liquid paraffin wax or petroleum jelly to both waterproof it and create a fire extender. This simple trick can improve your chances of getting a flame and drastically extend the amount of time in which the tinder will burn. This will also allow you to use less tinder to get your kindling going.

Unfortunately, Murphy's Law is usually in full effect when you need a fire most. Even if you bring tinder with you that is still no guarantee that it will be dry…

You can counter this by carrying "waterproof" man made tinder. Products like WetFire, FastFire, and Tinderquick are all highly flammable forms of man made tinder that burn at high temperatures with only a few sparks. (one cube of FastFire will burn for around 10 minutes and can even be used as a fire source to boil a cup of water.)

They are cheap and reliable, but you still need to be able to find naturally occurring tinder in the wild. I can't stress how important this skill is.

In the pouring rain, this may seem impossible, but if you know where to look you should be able to find some.

In the fall and winter months, when the tree's have shed their leaves you should be able to find some birds nests hanging around. These nests are ready made tinder bundles, if they are dry.

Also be sure to check in the Y of a tree branch that is close to the trunk and around the base of the trunk. Dead leaves, pine needles, small twigs, and other burnable items often fall into these or pile up

at the base and make a good place to find dry tinder.

Look under overhanging rocks and fallen trees, these can also provide an abundance of dry tinder.

If after all of this, you still have not been successful in finding dry tinder, you dry out slightly damp tinder by placing it in your pockets as you keep searching for more. It will take time, but your body heat will help to dry out the tinder bundle and if you don't have a fire, the best thing you can do is keep moving to keep your core body temperature up.

Once you have found a good supply of tinder, it is time to move on to kindling.

How to tell if you're kindling is dry:

THE SNAP METHOD:

- ✓ **The Premise:** dry kindling is devoid of a high water content and will snap easily instead of bending.
- ✓ **How To do it:** take your smaller bits of kindling no thicker than your thumb and grasp them at both ends. Pull the ends towards the middle, the kindling should snap in the middle.
- ✓ **What to look for:** twigs, sticks, and other kindling that snaps cleanly and easily is an indicator of dry kindling.

How do you know if your fuel is dry?

THE PERCUSSION METHOD:

- ✓ **The Premise:** as wood dries out, its acoustical properties change.
- ✓ **How to do it:** grab two sample pieces of wood at one end and let them dangle, one from each hand. Swing the bottom ends together, and listen to the sound at impact.
- ✓ **What to look for:** dry wood will "ring" or "bonk" when they hit each other. Wet wood, however, will issue a dull thud on impact.

CRACKING THE CODE:

- ✓ **The Premise:** as fuel wood pieces dry, the wood fiber shrinks, which causes visible radius cracks to open up on the ends of the wood.
- ✓ **How to do it:** examine the ends of a sample piece, looking for cracks that radiate from the core to the bark.
- ✓ **What to look for:** big, deep radius cracks are a good indicator of well-seasoned wood.

Note: *this is the least reliable indicator, as the cracks won't close back up if the seasoned wood is subsequently allowed to re-absorb rainwater.*

CHALLENGE LEVEL: I

Okay, so now that we have the basics done, let's get to the list of the top methods to start a survival fire. Since we don't need to worry about oxygen and we already know that we're going to use wood for our fuel, the biggest issue in a survival situation is how to get enough heat to the tinder, so that it will start to burn.

Of course, when learning anything, the easiest techniques should be the ones that you try first. So, let's start out with fire starting techniques that anybody can do with a minimal amount of training and effort. These "low hanging fruits" are going to be your go-to solutions, provided you have what you need on hand to utilize them. If you are lucky enough to have some modern fire starting equipment on you at the time you enter a survival situation... Use them. A survival situation is no time to be macho.. do what needs to be done the most efficient way possible. Practice the more challenging methods before hand as a backup, not as your only means of starting a fire.

#1: LIGHTERS

When we talk about lighters, we're talking about the disposable "BIC" lighters that you can find sitting on the counter of any convenience store. Those inexpensive lighters are one of the easiest ways of starting a fire that exist. The only drawback to them is that they require dexterity to use than matches. There have actually been cases of people who have died of hypothermia, even though they had a butane lighter, simply because their hands were too cold to be able to operate the lighter.

Butane lighters don't work well in cold weather. The flash point of butane (the temperature at which it turns to a gas) is low enough that cold weather can prevent it from turning into a gas. Since this is necessary for the lighter to work, they don't work well in below freezing temperatures. Of course, this can be resolved by keeping the lighter inside your clothes, next to your skin.

- ✓ Using a lighter with fuel—Of course, it's much easier to use the lighter if it has fuel in it. With careful use, making every spark count, you should be able to start over 1,000 fires with a single butane lighter. More than anything, that means having good tinder ready, before you strike the lighter. There's no sense in striking the lighter to see if it works, if you don't have the tinder ready to burn.

Using a lighter without fuel—Even an empty lighter can be useful for starting a fire. The flint and steel striking mechanism will produce a spark, which can be used to start your tinder burning. Granted, this is not an easy way to start a fire, but it's better than throwing the lighter away and not having anything to start a fire with. You can also harvest the flint from the lighter and strike it against other metal objects, such as a knife, to create sparks.

Matches

- ✓ The second easiest way to start a fire is with matches. They are common, easily acquired, cheap and don't take a lot of training to use. No survivalist worth his salt should ever leave home without a pack or two of matches.

#2: REGULAR "SAFETY" MATCHES

What makes safety matches "safe" is that the phosphorous isn't on the match, but instead on the striker. That prevents an inadvertent chemical reaction, starting an unwanted

fire. This inadvertent reaction could happen if a box of strike anywhere matches has something hard and heavy dropped onto it.

Safety matches are the worst possible match choice for a survival situation. However, they are still better than not having any matches at all. They are easy to use, but require that the striker be available. The striker must be kept dry as well, as a wet striker won't work to start a fire.

Just having matches isn't enough though. Almost all matches are susceptible to being destroyed by water. So, your match collection needs to be nicely stored in waterproof containers. For those that you are carrying on your person, a waterproof match container is ideal. For the rest of your match stock, try a heavy duty ZipLock bag or a film canister (if you can find one).

Matches come in a variety of shapes and sizes. While they are all intended to do the same basic thing, that's about the end of what they have in common. You can get matches which range all the way from the el cheapo paper matches that are given away with advertising on them, all the way up to some pretty sophisticated matches that are intended for survival situations. You can even make your own survival matches. The most common types of matches to look for are:

#3: STORMPROOF MATCHES

Don't get scared off by the high price tag on these matches; they are absolutely wonderful. The name tells it all; these matches will light even in the middle of a storm. It doesn't matter if it's raining, snowing or windy, you can still light these babies. Not only can you light them, but they'll keep burning for much longer than the average match. While I can't say that they will burn long enough to dry your fuel out, they will burn long enough to ensure that you can get your tinder burning. Once struck, these matches just won't die! The only thing wrong with them is that you have to strike them on a striker; they are not strike anywhere matches.

#4: STRIKE ANYWHERE MATCHES

These are the matches that our grandparents used. There name tells it all… they're designed so that you can strike them on any hard, rough surface, like a convenient rock. You don't have to have a matchbox with a striker mounted on the side. Unfortunately, the hand wringers have gotten into the act and cried about how dangerous these matches are, making them very hard to find. I've got news for them; not being able to start a fire in a survival situation is much more dangerous.

The good news is that you can make your own strike anywhere matches. All you need is a box of wood "safety" matches, with their

box and a few tools. To start, you need to sand off all of the rough material on the box striker. This is phosphorous and it's what makes the safety matches light; not because of its coarseness, but because of a chemical reaction that happens between it and the potassium chloride and sulfur that are in the match head.

Put the sanded off phosphorous into a small container and make it wet with a few drops of water. Stir until it is fully dissolved. Dip the tips of standard safety match heads into the liquid phosphorous and set them aside to dry thoroughly.

Take the heads off of a number of safety matches by crushing them with pliers. Grind the potassium chloride and sulfur mixture into dust and then rehydrate it in a container, much as you did with the phosphorous. Then, dip the match heads of the matches you have already dipped into the phosphorous into this mixture, so that it covers the phosphorous. Allow them to dry again and you have your own strike anywhere matches.

#5 HOME: "IMPROVED" MATCHES

Besides the problem of needing a striker, there are two other common problems with using both safety matches and strike anywhere matches. Both types of matches must be kept dry, to keep them usable. Wet matches might be able to be dried out again and used, but there is no guarantee that the match heads will stay on the matches. They both also have a tendency to burn out quickly, which makes it hard to use them to start a fire.

Both of these problems can be solved by modifying your matches. To do so, you will need some toilet paper, some paraffin (candle wax) and a double boiler to melt the wax in.

Melt the paraffin in the double boiler. You don't need it to be very hot, merely hot enough to melt. Tear squares of toilet paper in half to make a rectangle that is about two inches by four inches. Carefully wrap one of these around the match stick, starting from just behind the match head. You want to wrap it tightly. Once wrapped, dip the entire match in the paraffin and set aside to dry. To make this dipping process easier, dip one end, allow it to dry and then dip the other end.

The finished match can be immersed in water without it suffering any harm. Before using them, the wax needs to be scraped off the end of the match with a fingernail. These matches will burn considerably longer than standard safety matches or strike anywhere matches, making them much more useful for lighting a fire. While not quite as good as the stormproof matches, they are a close second.

#6: STEEL WOOL AND BATTERIES

This is a great method for starting fires and amazing your friends and others at

parties. You start out by bragging that you can make anything burn. When people are skeptical, you say, “Okay, I’ll prove it, I’ll make steel burn.” Of course, they won’t believe you, which will make the surprise when you can do it all that much greater.

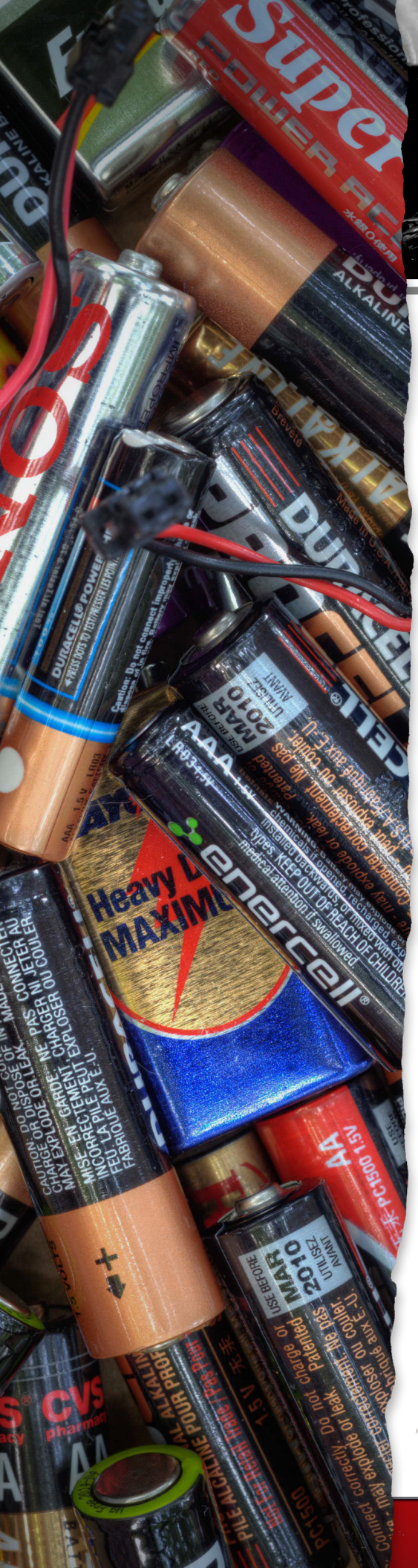
All you need is steel wool and a battery. This works best if you use 0000 steel wool (pronounced ‘four-ought’) with a standard nine-volt battery. 0000 steel wool is the finest grade they make. While it is theoretically possible to use a coarser steel wool, you’ll need a much bigger battery to provide enough current. You can use couple of AA batteries instead of the nine volt, but this method is much easier with the nine volt.

It is important that the steel wool not be rusted. Rusting is a chemical reaction, called oxidation, which takes place between the iron in the steel and oxygen. Your burning of the steel wool is also an oxidation reaction. So, even slightly rusted steel wool won’t work.

For the best results, tear off a piece of the steel wool and spread it out as much as you reasonably can. You want to create a short circuit, which will provide you with the spark to start your steel wool burning. If the steel wool is bunched up, it won’t burn as readily.

To get the fire to start, brush one end of the steel wool over the two poles of the battery, simultaneously. It has to touch both of the poles at the same time, or there won’t be a short circuit. As soon as a short circuit is achieved, the battery will spark against the steel wool, starting it burning. A piece of steel wool 3” x 6” will burn in about 15 seconds, which is more than enough to start your tinder burning.

The only problem with this fire starting technique is that it requires special supplies, which most people don’t have on hand to use. That’s why it’s not any higher on this list. 0000 steel wool is used for fine finishes in varnish and lacquer, something that most people don’t do. Nine volt batteries are common, but most people don’t use them a lot. However, with the right materials, this is a very easy method.



CHALLENGE LEVEL: II

Any half-decent survival instructor is going to tell you that you need two primary and two secondary means of starting a fire. For their purposes, the matches and butane lighters are considered primary fire starting methods. Anything and everything else would be considered a secondary fire starting method, including the steel wool trick that we placed in Challenge Level I.

These secondary fire starting methods are typically only used for starting a fire when the primary methods run out, or are not available. Lighters get broken; matches get wet; and even if they don't get wet, you'll eventually use them all up. So, having other methods for starting a fire is a really great idea for anyone who wants to stay alive.

All of these secondary methods are a bit more challenging than the simple methods that we had in Challenge Level: I. Nevertheless, they are not so hard to accomplish that you have to be a super survival expert to do them. In fact, pretty much anyone can accomplish these methods with a little bit of practice. That practice is important, as you don't want to wait until you have to use one of these methods to survive, in order to learn how. By then, it might be too late.

#7: MAGNESIUM AND FERROCERIUM RODS

Actually these are two separate, but closely related methods of starting a fire. Since they are so closely related, we're going to call them just

one, even though you use different forms of fire starters and the methodology is slightly different. Nevertheless, these two cousins both use magnesium and a "ferro" rod to start a fire.

Magnesium is interesting in that even though it is a metal, it is highly flammable, especially in powdered form. This is the same shiny metal that is used to make "mag wheels," so if you ever see a car with mag wheels burning, don't even bother trying to put the wheels out; you won't be able to.

Ferrocerium is a man-made material, which has been created as the functional replacement for flint. When flint and steel are struck together, you get sparks; likewise with ferrocerium and steel. The difference is that you get more and hotter sparks (3000oF) from ferro than you do from flint. By the way, if you happen to be in the Rocky Mountains and need to start a fire, but all you have is your knife, start hitting rocks (with the back of your knife so you don't dull the blade). You're bound to find some flint before long and get a spark (we'll just call that little trick a freebie).

- ✓ **Metal Match**—This is a trade name, turned common name for the original magnesium fire starter. It consists of a magnesium block, with a ferro strip inserted into one side. A little bit of magnesium dust is scraped (that's not cut, but scraped) off onto the tinder with a knife, and then the ferro rod is hit with the same knife, sending sparks into the magnesium powder to burn. Here's a tip while using this tool: *Be careful to work in a place where you are out of the wind, as the magnesium shavings you scrape off the block will blow away easily, making you start over.*

- ✓ **Ferro Rod**—The ferro rod consists of the same elements as the metal match, with the difference in that the rod is only about one-quarter inch in diameter, instead of a block of magnesium. It's a little harder to use, as you don't scrape a pile of magnesium shavings onto the tinder first. All you do is use the ferro rod and the serrated blade that comes with it to create sparks. Those sparks, falling on your tinder are supposed to help you get a fire started.

- ✓ **Push Down Fire Starter**—An adaptation on the ferro rod is one that is installed in a nice handle. This was created by some clever individual that realized that most people have trouble using a ferro rod. The end of the rod is placed on the tinder and the starter is pushed down. This causes the ferro rod to rub against the blade, creating sparks. Being spring loaded, it returns to its "cocked and locked" position when the pressure is released these is perfect for starting a fire when you only have one hand available.

Remember that you can harvest the ferrocerium out of a butane lighter

when it is empty. While a very small piece, it will still work. You can also harvest it out of welding “sparkers” that are used to ignite welding torches.

Lenses

92,960,000 miles away from us is a great big ball of fire just waiting to help start your campfire burning. All you need is a clear sky and little bit of focus.

There are a lot of different things that can be used as a lens. All it takes is a little ingenuity in figuring out how to access the lens and make it work. So, we’re going to take a look at a variety of fire starting methods that all use lenses.

#8: MAGNIFYING GLASS, EYE GLASSES OR BINOCULAR LENSES

You probably remember the great discovery of magnifying glasses and other lenses when you were a kid. Who can forget using their first magnifying glass to burn dry leaves, ants and anything else that managed to wander under their lens? Well, you may not have realized it then, but you were practicing some very useful survival techniques. The exact same methods that you used back then could save your life some day. Just grab the closest lens you have, whether it comes from a magnifying glass, a pair of prescription glasses, your binoculars or a camera lens (the removable kind used on high dollar cameras) and you’re set.

The trick to using any lens is focusing the light into as small a point as possible. That means you have to determine the best “focal length” for that lens. This important figure is the ideal distance between the lens and your tinder. In most cases, you will find that the focal length is actually rather short. So, if you’re having trouble making your white-hot point of light, then move your lens closer to your tinder.

#9: PLASTIC WATER BOTTLE

Hopefully you’re counting on more than your ability to start a fire to keep you alive. That means that you keep some basic survival supplies around, such as a bottle of water. Even if you don’t have a plastic water bottle on hand… they are quickly becoming one of the most common pieces of trash on the planet. While it makes a great container for your drinking water, it also has a very valuable property that you may have never thought of. You can use that water bottle as an improvised lens, if you don’t have a better lens available to use for starting a fire.

This works best if you have a clear plastic water bottle, rather than a colored one. Colored plastics will block out some of the

light, reducing the effectiveness. Another important factor is how smooth the water bottle is. A Nalgene water bottle will have smooth sides, whereas the water bottles you buy in the grocery store or convenience store won't. The indentations on the side of the water bottle, which are there to keep the thin plastic from collapsing, will refract some of the light into other directions that what you want, reducing your lens' effectiveness.

To use a water bottle, be sure that it is clean and remove all labeling. Fill it all the way with clean water. You don't want any air bubbles in it either. While this water needs to be clean in the sense that it doesn't have any dissolved solids in it or things floating around in it, it doesn't need to be drinkable. Lay the filled water bottle on its side and hold it over your tinder as a lens in order to start the fire.

#10: BALLOONS

Just like we used a water bottle filled with water to make a lens, we can use a balloon as well. Clear balloons work best, although most light colored balloons will be somewhat see-through when stretched. To use a balloon, fill it with water, just like the water bottle, and tie it off. Don't stretch the balloon to its limit, as you may need to squash it slightly to form a good lens. While functional, this method does take more experimentation than anything we've talked about up to this point.

A common form of "balloon" to use for this type of fire starter is a condom. Many survival instructors recommend keeping a couple of condoms in your survival kit; Condoms are usually made out of high quality latex, so they are much stronger than most commercially sold balloons.

Another common form of balloon for a fire starter is a latex medical glove. Yes, you can actually use these for something other than making chickens for the kids. Once again, the glove has to be filled with water and tied off. However, the natural shape of the glove makes the palm part of it a pretty good lens, which doesn't have to be reshaped to work.

#11: ICE

As crazy as it may sound, ice can be used quite effectively to start a fire. This is a much harder method, which requires more time, as you will have to make a lens out of the ice; so you don't want to try this when you're dying of hypothermia. However, if you're still warm, but need to start a fire, have at it.

Note: *This is more of a hail mary, last chance, fire starting method. It takes a lot of practice and... even then there is a small chance of*

actually producing a fire from it. That being said... Here is how you do it:

Essentially, you're going to make a lens out of the ice. So, you'll need to cut a chunk of clear ice out of whatever river or lake you have handy. The thickness isn't critical, although you need it to be at least a couple of inches thick. What is critical is that it be clear. Milky or cloudy ice, as well as ice that has dirt and leaves in it won't work.

Start by using your knife to shape the ice into a round lens. At least one side of the lens needs to be convex, but the other side can be either flat or convex. All you're going to succeed in doing with your knife is the forming of the ice, not the finishing; for that, you're going to use your hands.

Warm your hands up and then use them (without gloves) to smooth the ice and finish the lens. The heat from your hands will melt the ice enough to remove irregularities, smooth out the surface and give it a glassy finish.

To use the ice, set it in place over a couple of logs or stones for a stand, with the convex side facing the sun. Determine your focal point by moving a large leaf back and forth under the lens. When it is determined, set your tinder there to get it started burning. The lens won't become heated and melt from the light shining through it, although if temperatures are high enough, it won't last for long.

Reflectors

The ways we just looked at use lenses to convert the sun's light into heat to start a fire; but we can also use a reflector to harness the power of the sun. To use a reflector requires having a parabolic curve. We won't bother getting into the details of how to create a parabolic curve right now, as that takes a lot of practice and skill but, luckily, you won't have to create one. We are surrounded by parabolic lenses, as long as you know where to find them.

Like lenses, each parabolic reflector has an ideal focal point. This can vary from less than an inch to as much as several feet. Every reflectors focal point is different and will require testing in order to find the one that works best. Also, keep in mind that you are using the sun as your heat/light source and the sun is constantly moving so you will need to adjust the position of your reflector accordingly.

A satellite television antenna is a parabolic reflector. It is easy to determine the focal length, simply by looking at how far the collector is from the parabolic bowl. The collector is placed exactly at the perfect focal point. . A satellite dish all but hands you the focal point, but other reflectors will require a little trial and error. Luckily there are plenty of these to choose from and practice with, like:

#12: AUTOMOBILE HEADLIGHT

Automobile headlights are designed and manufactured to be parabolic reflectors, making them perfect for use as fire starters. The old style headlights, with the large glass bulbs that had the reflectors built into them were hard to use for this, but the newer style, where the reflector is part of the light housing and the bulb sticks into it from the back are extremely easy to use.

To use a headlight, you'll need to take the bulb out and remove the headlight housing from the car. If your lens is at all cloudy, you'll want to separate the reflector from the lens; however, if the lens is clear, you might want to try using it intact, before taking it apart. These units are expensive, so there's no reason to destroy your headlight if you don't have to.

It is easy to determine the focal length of the reflector by looking at the bulb that goes in it. If you can find the filament in the bulb and figure out where it sits when it is installed in the headlight housing, you'll have found the focal point.

Put the tinder that you are going to use to start your fire into the reflector through the same hole that the bulb goes into, holding it from behind. That way, you won't be blocking any of the light with your hands or the tinder. Point the reflector towards the sun and wait for your tinder to start burning.

#13: FLASHLIGHT REFLECTOR

In the same way that a headlight reflector can be used as a parabolic reflector to start a fire, the reflector from any flashlight that uses a bulb can be used. This doesn't work so well with the newer LED flashlights, as they have very small parabolic reflectors and the LED is permanently mounted to it. The larger the diameter of the reflector, the better, as it will reflect more light, creating a hotter focal point.

Just like the headlight, you can put the tinder in from the back of the reflector, through the hole where the bulb would normally mount. Point it at the sun and as long as you have a clear sky, you should see smoke within seconds.

#14: SODA CAN BOTTOM

While car headlights and flashlight reflectors are ready-made parabolic reflectors, they aren't the only ones around. The advantage those two have is that they are already polished, so they don't require any extra work, other than

taking them apart. However, there are several other things which can be used as parabolic reflectors, although they do require more work.

Soda cans are commonly found trash items that you can find nearly anywhere, provided that you're not in some ultra-rare, uncharted area that man hasn't already been. The bottom of most soda cans is a fairly good parabolic dish, although it typically has a matte finish, which will not focus the light and start your tinder burning. That can be easily remedied though. All it needs is polish it to make it shiny. While you probably don't carry a jeweler's buffing wheel around in your pocket, there's a good chance that you will have something that can be used to polish it.

Toothpaste actually makes an excellent polishing compound. You can use the toothpaste either on a piece of cloth, such as a bandana, or directly with your fingers. Another option, which many people always try to have with them, is chocolate. Yes, believe it or not, that chocolate bar you have been saving for a rainy day is actually perfect for polishing. The cocoa powder in it is very hard, albeit finely ground. The cocoa butter in the bar acts as a lubricant, working together with the cocoa powder. One final option for polishing the bottom of the soda can is the ash from an old fire.

Don't expect your polishing efforts to be over in a matter of minutes; you're probably going to have to work at it for a half-hour or more. Nevertheless, when you get done, you'll have a nicely polished reflector, which can be used to focus the sun's light onto your tinder to start a fire.

This is another great party trick, assuming you bring your own can that's already polished. Your friends won't be able to figure out how you got it to work, because they won't be able to do it with their cans. Just make sure you hide your can after starting the fire.

#15: SOLAR CIGARETTE LIGHTER

These coming out in the early 80s and honestly the first time I saw them I thought they were a rather poor joke. What smoker is going to carry around a parabolic dish with them to light up their smokes? But, as a survivalist, I quickly saw the advantage of having one of them. Since the only type of smoking I do is to start a camp fire, I decided that my needs were well within the design parameters of the lighter.

The really great thing about these as fire starters is that they are already set up with the focal point in the exact position needed. The prongs that hold the cigarette are at the right distance for the focal length of the parabolic reflector. Being made of lightweight metal, they are easy to pack and take in your backpack, bug-out bag or survival kit.

The only difference between using one of these and the other reflectors we've talked about is that your tinder will be held in front of the reflector, in the prongs that are intended for holding the cigarette. You'll need to size your tinder accordingly, so that it doesn't block off too much light. By the way, those prongs fold flat with the reflector, making it easy to slip into a pocket on your pack.

Batteries

We've already mentioned one method of starting a fire with batteries, back in challenge level one; starting a fire with a battery and steel wool. That's the easiest way to use the power stored up in a battery to get a fire going, but it's by far not the only one available.

Electricity has the amazing ability of sparking. Just like we were able to start fires by getting magnesium and ferro rods to spark, we can start a fire by getting batteries to provide us with sparks. All it takes is the right batteries and the right stuff to use with them.

#16—STARTING A FIRE WITH A GUM WRAPPER

Hold on a moment; don't throw that gum wrapper away. It might be just what you need to get your next fire going. At least, it could be if it's the type of gum wrapper that comes with a thin coating of aluminum foil on the outside of it. Coupled with a battery, that gum wrapper makes a great fire starter.

Oddly enough, this method originated in prisons as a way for inmates to light cigarettes when they didn't have access to matches or a butane lighter. But how does it work?

Have you ever taken a good look at a fuse? A common trait of fuses is that they all have a thin spot in them. That's the spot that's supposed to "blow" if too much current flows through the line. The amperage rating of the fuse is how much current can flow through the fuse without causing that spot to burn.

You can use that same principle to your advantage, making a "fuse" out of your gum

wrapper. All you need to do is cut the gum wrapper to make a fuse out of it. Start by cutting a strip about 1/2 inch wide, and then cut a notch in both sides of it, so that you have a spot that is only about 1/8 inch wide. That's your burn point.

To use the gum wrapper fire starter, all you need to do is place one end of the aluminum over one end of an AA battery and the other end over the other end of the battery. The gum wrapper will burn through in a couple of seconds, giving you a fire. The paper will burn for a moment, giving you time to drop that fire onto your tinder.

#17: USING JUMPER CABLES

If you happen to need a fire sometime when you've got your car handy, you have a readymade fire starter built-into your car. No, I'm not talking about the cigarette lighter, although you can use that as a fire starter as well (another freebie). Nor am I talking about putting some tinder on the exhaust manifold to get it burning (yet another freebie). I'm talking about using the battery and a set of jumper cables to start a fire.

Car batteries have a lot of power in them, compared to the dry cell batteries that we use in flashlights and other small electronic devices. They have to, in order to provide enough "umph" to the starter motor, especially on a cold morning.

All you have to do is connect your jumper cables to the battery and touch them together right over your tinder. The electrical current going through the cables will produce some nice sparks to get your tinder going. Just be sure that you are ready, as you don't want to do this enough times to kill your battery. By the way, even if your battery doesn't have enough power to start the car, it will probably still have more than enough to start a fire.

CHALLENGE LEVEL: III

Now we're getting to the tough stuff. This section of the book isn't for the faint of heart, but only for those who are truly manly men who want to conquer fire in all possible ways. These are the fire starting methods that will separate the men from the boys. If you really want to impress your friends and family, then this is the place for you. Once you master these techniques, all your hunting and fishing buddies will fall flat on their faces when they try to copy your shining example.

Friction

Let's start with a little experiment. As you are sitting there reading this, start rubbing the palms of your hands together. They should start getting warm. Now rub them faster, with more pressure. They should get even warmer. Keep rubbing them until you get fire… no don't; you'll never get there. You can't rub your hands together fast enough to start a fire. To do so, you'd have to be able to create heat faster than your body can dissipate it to other parts of your body; not exactly something within the realm of possibility (not to count that pain will stop you).

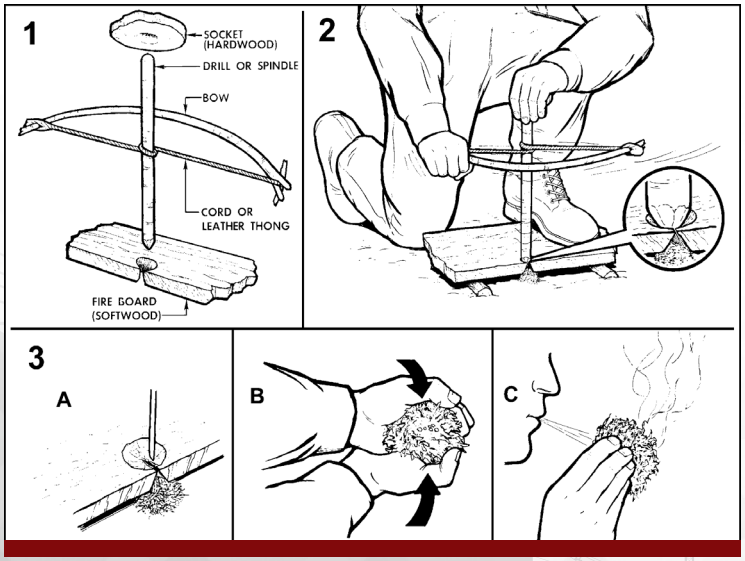
Getting a fire started by rubbing sticks together requires rubbing them fast enough that the heat can't escape, but instead continues to build up to the point where it makes the wood start burning. To do this, your fire starting materials will have to be carefully prepared.

While there are several different friction fire starting

methods, they all have certain things in common. They all use a fireboard, which needs to be made out of a soft wood, such as one that would be easy to cut with a knife. Please note that I am not using the technical terms “softwood” and “hardwood” but rather one that is physically soft. There will also be a spindle in most cases, which is nothing more than a stick, about 1/2 inch in diameter with blunt, rounded ends. Some prefer a soft wood for the spindle, while others prefer a hard wood. Personally, I have had better results using a hard wood. Both pieces of wood need to be bone dry, or all you’re going to do is get some exercise.

The way these fire starting methods work is by shaving off sawdust from the fireboard and heating it to the point of combustion. The goal is to produce a glowing coal, which can then be placed on the tinder and blown upon, causing the tinder to ignite.

#18: BOW DRILL



This is the most common friction fire starting method, as well as being the easiest of the friction methods to do; even though it requires more parts to make it work. In addition to the fireboard and spindle, you’ll need a bow, a piece of bark to act as a tray to catch the ember, and a bearing block.

To prepare the fireboard, cut a notch into the edge of it with your knife. You’ll be putting your spindle right at the apex of this notch to start the fire, so you’ll want it to be at least half an inch deep and anywhere from 60 to 90 degrees wide. The notch has to go all the way through the board. With the point of your knife, cup the spot at the apex of that notch, so that your spindle doesn’t slide all over the board.

A bow can be made out of whatever is at hand. If you have paracord, it works extremely well for a bowstring. You can also use your shoelaces for a bowstring. The bow itself is merely a green branch that is bent to provide tension to the string. You will also need a small piece of hardwood that you’ve cut an indentation into, to use as a bearing block. Your will hold this in the palm of your hand, to put pressure on the top of the spindle.

The bowstring is wrapped around the spindle, the spindle placed on the fireboard, overlapping the apex of the notch and held in place by putting pressure on the top of the spindle with the bearing block. Pulling the bow back and forth causes the spindle to turn, providing friction. The

faster the spindle turns and the greater the pressure placed upon it from the hand holding the bearing block, the more heat will be produced, creating the glowing ember needed to start the fire.

#19: PUMP DRILL

The same basic thing can be done with a pump drill. The only real difference between a pump drill and the bow drill is the way that the spindle is turned. Pump drills are harder, simply because the spindle has to be converted into a drill. To do this, a crossbar is needed, which has a hole that the spindle goes through. The string is attached to both ends of this crossbar, as well as run through a hole in the top of the spindle.
To help the pump drill work effectively, a weight should be added to the spindle as well. This can be a cross section of a tree branch that is five to six inches in diameter. The branch needs a hole in the center for the spindle to pass through, and then the two are attached together. This weight acts like a flywheel, providing continuing momentum.

To use the pump drill, prepare the fire board in the same way as required with the bow drill and place the spindle into the indentation at the apex of the notch. Turn the spindle, so that the string wraps around it. Then, to operate the drill, pump the crossbar up and down. The unwinding of the string as the crossbar goes down will cause the spindle to turn and it will continue turning to rewrap the string in the other direction. The next down-stroke will accomplish the opposite, creating friction to start the coal.

As an alternative, both the bow drill and the pump drill can be used in conjunction with an orange to start a fire very quickly. Yes, believe it or not, an orange will burn readily. That is, it will burn readily once you get the juice out of it. Hmm, this might be another good party trick. To start a fire with an orange, you'll need about a one inch hole in the side of it. Cut that out with your knife, and pull the plug out. Then, squeeze as much of the juice out of the orange as you can.

In addition to the orange, you'll need a small rock. Ideally, you want a smooth stone from the bottom of a stream. It should be flat or slightly concave, so that the spindle won't slip off of it. Place the rock in the orange, with the hole facing up and set the end of your spindle in it. Start the spindle spinning and watch your orange catch fire.

This works so well that you can actually do it without a bow drill or pump drill, simply

using your hands to turn the spindle. Place the spindle between your hands and rub them back and forth, causing the spindle to spin on the rock. You should have fire within 30 seconds (oops, there's another freebie).

#20: FIRE PLOW

For those that want a real challenge, I recommend the fire plow. This is an extremely simple method that will test the stamina of your arms. While much easier to create than either the pump drill or the bow drill, it is much harder to use.

To prepare the fire plow, you'll need both a spindle and a fire board. Instead of cutting a notch in the edge of the fire board, cut a straight groove down the middle of it. Set the board so that the near end is supported above the ground and the far end is on the ground, right at your tinder nest. Take the spindle in your hand and start rubbing it up and down the groove as fast and hard as you can.

The rubbing of the spindle in the groove will accomplish the same thing as turning it in the surface of the wood, although not as fast or easily as you can with either of the drills. You should gradually form embers that will fall into your tinder. Blow on these, so that your fire will start.

#21: FIRE PISTON

The fire piston (also known as a slam rod) is a very unique method of starting a fire using only air. That makes it another great party trick, if you're collecting tricks to impress your friends. It operates under the principle that pressure creates heat. However, whereas a gasoline engine compresses at a ratio of 7:1 and a diesel engine compresses at a ratio of 20:1, a fire piston needs about 25:1.

To make a fire piston, you'll need a piece of copper or brass tubing. Typically, tubing of about 1/4 inch diameter is used, although slightly larger tubing will work as well. The thing you have to remember is that the

length of the stroke needs to be 25 times the diameter of the tubing; so a larger diameter means you'll need a longer stroke.

The piston can be made of any non-flammable material, or a flammable material that is tipped with a non-flammable material. It needs to fit snugly inside the tube or have seals around it to make it fit snugly. If a good seal is not obtained, there is no way that you are going to get the compression necessary to get ignition. This is critical. Without a good seal, the air will escape around the piston and won't heat up.

The piston needs to be cut so that it will stop just short of the end of the tube (about 1/4 inch). It also needs something to use as a handle, so that you can press down on it with enough force to compress it rapidly. A notch in the face of the piston can be used to hold the tinder in place.

To use the fire rod, attach a piece of tinder to the face of the piston; char-cloth works well. Place the end of the fire rod on a surface which will allow it to seal off the air escaping. Push down rapidly and firmly on the piston handle, compressing the air inside the cylinder as fast as possible. This should cause it to heat up sufficiently to start the tinder burning. That tinder need to be immediately put in contact with a larger piece of tinder, as the small amount of tinder which can be put in the slam rod won't burn long.

If your fire rod doesn't work, it is most likely because you aren't pushing the piston down rapidly enough or the air is escaping from the cylinder. For this method to work, you need to be able to generate the heat faster than it can escape. That can only happen with rapid compression.

A PRIMER ON TINDER

Besides the initial spark or flame, tinder is the most important part of successful fire starting. Good tinder will make the job easier, while poor tinder selection could make it virtually impossible for the most ardent survival instructor to get a fire going.

For tinder to be effective, it must be:

- ✓ Dry (unless wetted by an accelerant)
- ✓ Able to burn at a low temperature
- ✓ Thin enough to burn easily, with adequate air spaces
- ✓ Available

There are a number of materials available in nature which make excellent tinder, such as birch bark, dried grass, the

fluffy down from cattail heads and milkweed plants, dried pine needles, dried moss, and the flaky bark from cedar. In olden times, travelers kept their eyes open for good sources of tinder along the way and would collect it in a tinder box (which also contained their flint and matches) for their next time of need. That way, they wouldn't have to hunt for tinder when the time came.

If you are caught in the wild and need tinder quickly, look for any deadfall tree that is propped up by other trees or rocks. The underside of these often provides a wealth of tinder, as well as kindling and fuel for your fire. Another great source that can be commonly found in the wild is bird and rodent nests.

Natural tinder is often used in the form of a "tinder nest" rather than just a bundle or pile of tinder. The name comes from the fact that it looks much like a bird's nest. The natural tinder is crushed between the hands to break it down. In the process, you'll find that you have larger pieces and smaller pieces. The larger pieces are formed into a bowl and the smaller pieces placed inside.

It is necessary to repeat this process of breaking down the tinder and adding the broken pieces to the inside of the nest several times. You'll find that each time, the broken pieces get finer and finer, until you are literally adding dust to the tinder.

When using a tinder nest the idea is to focus the sparks or coal into the inside of the nest, where the pulverized tinder is. This will be the part of the tinder which will burn the most readily. When the coal or spark is added, it will start the dust burning. Blow on the coal, adding oxygen, until flames appear.

While all of these sources are excellent places for finding tinder, you shouldn't count on finding them. When you find yourself in a survival situation, the last thing in the world you need is to have to go running around trying to find the things you need to have in order to survive. If you want to beat the survival game, you need to stack the deck in your favor; that means preparing your tinder ahead of time.

There are a number of commercially available fire starters, which are essentially forms of tinder. This can be a bit confusing, as we've just spent a lot of time talking about starting fires and different fire starters. However, both the means of creating the initial flame or spark and commercially available tinder are referred to as fire starters, so be sure you know what it is that you're buying.

You can also make a variety of very effective types of tinder at home, so that you fulfill the old Boy Scout motto of "Be Prepared." After all, any real man at least pretends to having been a boy scout. So, let's look at a few basic homemade forms of kindling.

Char-cloth

Char-cloth has been around at least as long as charcoal. It's essentially the same thing, the carbon that is left behind after burning off the hydrocarbons. The only real difference is that this carbon comes from cloth, whereas the carbon for charcoal comes from wood.

The really great thing about char-cloth, besides its light weight and compact size, is that it ignites very well from sparks. So, it's an excellent form of tinder to use along with the various methods of fire starting that we've discussed, which create sparks.

To make char-cloth, you'll need to start out with some cloth. Heavyweight cotton works very well for this. You don't want to use a lightweight fabric, as the resulting char-cloth will break too easily. In addition to the cloth, you'll need a small metal container with a lid, such as one from Altoids mints. Poke a small hole in the top of the metal container with an awl or an extremely small drill bit.

Cut the cloth into pieces which will fit well inside of the metal container. Opinions differ as to a "prefect" size, but something around 1 inch by 2 inches is a good starting point. Stack these pieces of cloth loosely in the tin, so that air can move around and through them.

Place the closed tin, with the cloth inside on a fire. The next time you're burning steaks on the barbecue grille might be a good time for this. The cloth can't burn inside the tin, so the hydrocarbons will turn into a gas and leave through the hole, where they will burn. Once they stop burning, your char-cloth is done. Retrieve the container with tongs and allow it to cool.

The finished char-cloth will be black and look like little rectangles of burnt fabric. It needs to be kept dry until you are ready to use it. Since it is fragile, you want to keep it in something that will keep it from breaking. Storing it in the same tin that you made it in sealed in a zipper storage bag works out well.

Cotton Balls

Cotton balls burn fairly well as tinder, but they can be improved greatly with a few moments of time and some petroleum jelly. The cotton and petroleum jellycombinationmakes an excellent kindling, which will burn for over three minutes. That's long enough that they can be useful if your kindling isn't fully dry.

You have to make these one at a time for them to come out well; however, it is best to

follow the first one up with another, while you've got everything out. They will keep for a good long while, so you may as well make a batch of them while you're at it.

The idea is to saturate the cotton ball with the petroleum jelly. To do so, put a cotton ball in a bowl and scoop up about a teaspoon worth of petroleum jelly, with the back side of a spoon. Using the backside of the spoon, work the petroleum jelly thoroughly into all parts of the cotton ball. Please note that you need to use the back side of the spoon and not the front side. If you use the front side, you'll end up with the petroleum jelly stuck in the spoon, instead of being worked into the cotton ball.

The same sort of fire starter can be made using the cotton pads that women use to take off makeup. These are a little easier to work with, as they maintain their shape easier. The biggest problem with these is that they don't soak up as much petroleum jelly, so they won't burn as long.

Finished cotton balls should be stored in an airtight container or zipper plastic bag. Only one is needed for starting a fire. They will ignite readily from a small flame, a spark, or when using the sun's rays to start a fire.

Dryer Lint

Dryer lint is a free and plentiful form of kindling. It can be used directly as it is, or mixed with paraffin to make a more effective fire starter. These won't light quite as readily as the ones made from cotton balls and petroleum jelly, but they are excellent for use with your primary fire starting methods or with methods where the sun's rays are being used to start the fire.

While these can be made in almost any form, the easiest is to make them in egg cartons. You'll need the ones that are made of cardboard, not the Styrofoam ones. When the Styrofoam ones burn, they put off noxious gases that you really don't want to be breathing. Put a ball of dryer lint into each cup of the egg carton. Size isn't really an issue here, as pretty much any size will work about the same. Melt some paraffin (candle wax) in a double boiler and pour it into the egg carton, thoroughly wetting the dryer lint, but not overflowing from one cup to the next. Allow to dry.

The nice thing about this form of tinder is that no special care is needed for storing them, as there is with the others we've discussed. The egg carton can be closed and stacked on a shelf. When one is needed, it can simply be torn out and used. While they won't work when soaked in water, they will work in normal humidity, even if left out.

Black Powder

When you're desperate to start a fire,

desperate means might be needed. I would not recommend this for your “everyday” tinder, but only as your last resource, when you have to get a fire started but nothing else will work. These will burn for about 3-1/2 minutes, at a temperature of over 3000oF, which make them ideal for situations when you can’t find dry kindling or fuel for your fire.

Black powder is used for this type of tinder, as it burns readily, but not as quickly as modern gunpowder. To make it, put about two tablespoons of black powder into a glass or ceramic bowl (don’t use plastic) and cover it with nail polish remover. Please note that the nail polish remover you choose must be a type which contains acetone, or this won’t work. With your hands, work the gunpowder and nail polish remover into putty. Don’t worry, the mixture won’t do more than dry out your skin.

The putty must be kneaded for a while, so that it forms multiple layers, much like Damascus steel is a number of layers. This is done by flattening the putty and folding it over multiple times. These layers are what control the burn rate, keeping the tinder from burning too rapidly.

Finished black powder fire starters are good as long as they are damp. Once they dry out, they are no longer usable and can actually be dangerous to try and use. How long they keep will depend upon how airtight the container you keep them in is.

STARTING A FIRE IN WET CONDITIONS

The worst possible conditions for starting a fire are often when you need it the most to survive, like when it is cold and wet outdoors... a very deadly combination. The problems in starting a fire in the rain are multi-fold, as you not only have to worry about finding dry fuel, but also finding a dry place to build the fire which is shaded from the rain.

To start with, you need to prepare your fire pit. Actually, the last thing you want is a fire pit, as it will probably fill up with water. Instead, build a hearth out of rocks, so that you can keep the fire up off the ground. You need to put this hearth someplace where the fire will be protected from direct rainfall, such as under an overhanging tree (taking proper precaution to ensure that there are no branches close enough to catch fire) under a spread out tarp (ditto on precautions) or under an overhanging rock (no problem with fire, but make sure it can't fall on you).

In addition to rainfall, you may have wind to contend with. Starting a fire in the wind can be almost as hard as starting it in the rain. Protect your fire from the wind by erecting a lean-to, using a rock slab as a wind break or building a wall of logs or branches.

The next problem is finding kindling and fuel. I'm

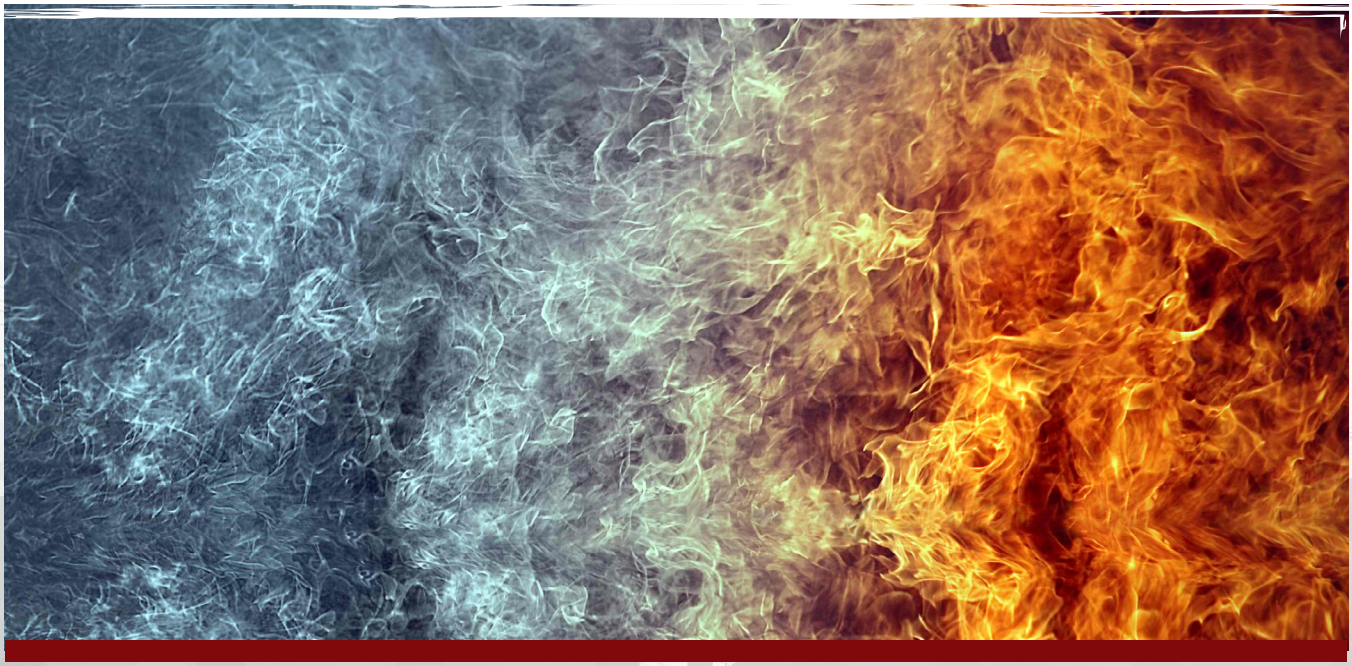
going to assume that you listened to my advice in the last section of this book, and you have your tinder with you. If not, slap yourself on both wrists and look for a deadfall tree somewhere.

That same deadfall tree is your best source of kindling and fuel for your fire. While the top side is bound to be wet, the bottom side should be dry. You can break off bark, branches and cut the wood from the bottom side of the tree itself. Often, when a big tree falls, there will be a lot of good fire material on the bottom side of the deadfall. Be sure to check the ground under the deadfall as well, because anything laying there should be sheltered from the rain, as long as there isn't water running across the ground.

A note on deadfalls: If you are in an area where there are deadfalls, make sure that your campsite is well a way from them. It may take more time to gather and transport your fire supplies, but you do not want to be anywhere near that area if a storm or strong winds happen to hit... They don't call deadfalls "widowmakers" for nothing.

Even though you may find "dry" kindling and fuel, there's a pretty good chance that it will be at least somewhat damp. This is the time for one of the black powder tinder balls that I talked about in the last section. If you don't have one of those, then your best bet is one of the cotton balls soaked in petroleum jelly. Those won't burn as hot, but they will burn long enough to get something going.

Also, you can pick up damp tinder along the way and store it in your pockets (keeping it separated from dry tinder of course). Your movement and body heat will help to dry out the tinder even more.



WATERPROOFING YOUR FIRE STARTING KIT

No matter how good you get at starting fires, if you don't keep your fire starters and your tinder dry, you're shooting yourself in the foot.

Luckily, many of the methods that are outlined above will work in just about any condition. Storm Matches, butane lighters, magnesium bars and fero rods; all of these are essentially waterproof fire starters. Unfortunately, other methods, like safety matches and friction based fires are completely dependent on dry tinder in order to work. Never hamstring yourself into only having one way to start a fire. Even if you have "mastered how to start a friction fire, odds are when you need a fire fast, you won't have the time you need or the right conditions to get your fire going and get warm before hypothermia sets in. You need to make sure that you have multiple methods (at least 3) of striking a fire and it is a huge advantage to keep dry tinder on hand, no matter what.

Your best bet is to create a waterproof fire kit that contains several methods to get a spark as well as a foolproof way to make sure that you have dry tinder when you need it.

It's actually pretty simple (and cheap) to make one of these that is not only waterproof but fits in your pocket, and doesn't stand out.

This kit is a great way to make sure that you have everything needed to start a fire when you need it. By using a little ingenuity knowhow, and a few materials that, by now, you should already have, you should be able to have

one of these in your pocket and at the ready in as little as 10 minutes.

There are a few things you're going to need in order to create your fire starting pocket kit.

1. An Altoids tin
2. Small cigarette lighter (BIC mini's are my preferred choice)
3. A book or two of matches. (If you don't want to shell out any cash for these, you can usually pick them up free at restaurants and bars.)
4. Small pocket knife (optional)
5. Small fero rod or magnesium bar
6. A few pieces of dryer lint

Now with your materials together what you'll need to do is the following in order to put the kit together.

The first step is to line your tin box with the dryer lint. This provides a cushioning layer as well as a fire starting material for your kit. This will protect your matches, lighter, knife and magnesium match from bumping around too much and getting damaged in the tin box. Also the dryer lint can be removed from the fire starting kit and set on fire as a tender to get the fire started with at your campsite whenever you need to start a fire. It will also pull double duty to insulate your kit and reduce the amount of noise it produces when rattling around in your pocket or B.O.B.

Next, arrange your pocketknife, matches, and fero rod or magnesium bar into the tin so that they all lay flat. Be sure that you have a knife small enough to fit in the tin box. If you are using a firesteel or magbar that has its own striker, you can completely skip including the pocket knife.

But if there is room for it, you can never have too many knives on you. Now you want to add some more lint on top of your kit to add more tinder and insulation to it.

Close the tin up. It should fit tightly without bulging. If the tin bulges it will be more vulnerable to opening up and absorbing water.

Now, you can either leave it as is and it will be fairly water resistant, or you can take it a step further by sealing the tin to make it water proof.

You can either use electrical tape or duct tape to seal the tin where it closes to insure the contents of your kit stay dry as a bone, or you could melt paraffin wax and brush or dip the tins seams with it to fully seal it.

You now have a waterproof fire starting kit that you can carry in your pocket. This kit is a great compact, lightweight, cheap and efficient way to carry fire with you, no matter what.

But this is only one way to waterproof your fire kit. There are plenty of others; you just need to choose what works best for you.

CONCLUSION

Well, you've made it. You now have 21 proven methods to start a fire and no excuse for not being able to keep yourself and your family warm, no matter what situation you may be put in.

But… the only way they will be of any use to you is if you get out and practice them now.

You never want to be doing anything the first time, when you need it to save your life.

Good Luck!