

**QUALITY SURVIVAL KNIFE FUNDAMENTALS** by Kenneth W. Lent 2/5/13

Many items, such as a broken piece of glass, a piece of soda can, a sharp stone edge, or a hardwood sliver, could provide a useful cutting tool in an emergency situation. This article, however, is not about such timely innovations presented in survival magazines or discussed in Online prepper blogs. Here we will look at “what makes a truly superior survival knife” if you want to spend a few extra bucks to purchase one. There's more to choosing a top notch survival knife than we might realize. Keep in mind that when we are discussing the fundamental qualities of a survival knife, we are not referring to a "hand to hand combat knife", but a rugged "tool blade" that will stand up to the abuse of improvising the items and hand constructed goods a person would need in order to make it through a realistic survival situation. The below picture is my personal favorite quality knife for this particular usage although there are a few others that are also great choices.



Shown is a “[Black Kat BK-302](#)” styled by Keith Derkatz, American knife designer. This is a fixed blade knife made of Japanese XT- 80 high quality stainless steel, with a fully checkered Kraton handle. Blade length – 6.13”. Blade thickness – 5mm (nearly ¼”). Overall length – 11”. Weight – 8 oz. At \$185 it is a bit “pricey” but worth every dollar if you are looking for superior quality. The time tested USMC KA-BAR comes in at about \$110. SOG SEAL knives about \$100 - \$170. The Gerber Prodigy GB 1121 runs \$50+. Some custom tactical knives cost much more than these. The KnifeArt Black 9 ¾” All Purpose Knife will run you \$250. Of course, you can always look for sales and close outs for some frugal shopping. (See links at end of page 9). Above knife: Online store and inventory catalog -- <http://www.katzknives.com/>

## **MACHO WON'T CUT IT**

Contrary to what we see in the movies, the oversized Hollywood Rambo Style knife isn't the best choice for a survival knife. As a matter of fact, these monster sized knives are quite cumbersome, failing the test when trying to apply them to many basic chores a circumstance can demand in a pressure situation. In field trial exercises or a true disaster event, while packing this type of knife you will soon find yourself simply wearing it on one side of your belt while you constantly reach for that smaller knife on the other side of the belt, since the smaller knife will solidly prove to be more practical for manual tasks. Leave the huge Rambo type of knife at home where it is a good conversation piece.

Likewise, another poor choice for a survival knife is the "double edge" knife. These are basically designed for inflicting body wounds. Their design also provides a weaker tip than you will need for many wood construction projects. Working with a hardwood such as oak or walnut with these knives is going to put the user at high risk of cutting a hand or finger because of the double sharpened design on both sides of the blade. Avoid these knives for your survival blade choice.

The popular "Swiss Army" type of knife usually has a swing out blade that does not lock in its extended position --- a serious drawback for our expectations. Upon applied pressure these blades will quickly fold back into the handle. This becomes a high risk of inflicting a serious cut on the user. A few companies have a lockblade design for these knives, which make them much safer as a multi-tool for light duty work, but even these lack the robust durable blade design we are looking for in a survival knife. Keep one of these as a backup multi-tool, or as a handy quick tool in your car's glove compartment.

Hollow handle knives are a novelty at best. These are promoted with the sales pitch that they provide the space you need for storing matches, wire, fish hooks, etc. in the handle of the knife. These items are best kept in the side pocket of your backpack, fannypack, or beltpack. Drop your hollow handle knife down a ravine or in a lake, and you lose the items inside. But the most undesirable drawback of these knives is that they are two pieces -- the blade, and the handle. The handle is almost always attached to the blade by being bolted on or glued on. Actual experience with this design shows that they don't hold up to even moderate use without coming loose at the joint or breaking completely. A custom knife maker can drill out a thick steel handle then sharpen a nice blade on the extended front shaft, making a "solid blade/hollow handle" knife. If, for some reason, you want to carry items in your knife handle, this would be the only alternative if you insist on going this route.

## **THE PRACTICAL BLADE FOR ALL AROUND SURVIVAL NEEDS**

Large wood chopping, very thick branch cutting, or large log shaping are all best left to a hand axe or machete. Therefore the choice of a large heavy "exotic style" knife for your belt sheath as your primary knife does not make a

lot of sense. Such a knife still doesn't have enough chopping power to be used in place of a hatchet, but is cumbersome enough to be a frustrating tool where smaller detailed work is needed. (for instance, whittling a branch for a fishing spear; or rigging snare traps from saplings) With a logical compromise in blade size you will still have the ability to split medium size branches for fire starting, while finding your knife will serve you well for intricate chores.

The best all around survival knife will have a blade of either four, five, or six inches in length (not including the handle end). No doubt about it ... a full length knife is the strongest design among survival knives. This means that the entire knife is made out of one piece of steel, thus the front blade and the handle end are shaped out of one single piece of metal. We may hear this described as a "full tang" knife. Look for this type of knife if you want to find one that will stand up to a lot of field abuse. The blade thickness should run close to 3/16 of an inch, with the minimum being 5/32 and the maximum no more than 1/4 inch thick. This will keep the knife in the range of having a blade suited for both proper weight and durability.



I've had this BK-302 for ten years and have split a lot of hardwood logs for firewood while backpacking by beating on it with another round log. The knife is still in great condition other than some minor scuff marks. At nearly ¼ inch thick, the stainless steel blade can take a lot of abuse and still retain a fine sharp edge.



That's a hard maple chunk split down the middle with ease. When you are counting backpack weight and maneuverability, a good survival knife eliminates the need to pack a hand axe along, making room for some other item.

- - - yet it will easily do detailed work like removing tight staples - - - or - - -



- - - whittling a small stick to a point - - - or - - -



- - - cleaning debris from around a tire air valve.



## ADDITIONAL CONSIDERATIONS

Butt caps on the end of the handle, as well as any side material attached to the handle as "grips" should be either pinned on or welded on. Where the handle ends and the blade begins, there should be some sort of "cross guard" to prevent your hand from slipping down onto the blade if you are driving the knife hard into some material, or if you are pounding on the butt while holding the knife (as in splitting a branch). This safety feature doesn't have to be a large protrusion, and may even be incorporated into the original shape of the full tang; but check out your potential knife to make sure there isn't a straight "slide off" from handle to blade.

There is a debate as to whether the blade on a survival type knife should be partially serrated or smooth throughout the entire blade. This is actually a "personal call", but remember that in most woods situations your knife is going to be employed for a lot of carving and shaping. Serrated blades do not lend themselves well to this activity and can be blunted upon

a heavy work load. On the high seas one might find the argument for a serrated blade more convincing since they are excellent for rope and line cutting. If you want to have a serrated edge on your survival knife, find one that has the back part of the blade (nearer the handle) 30% serrated, and the front part 70% smooth blade. However, for most wilderness survival chores a smooth edge blade will be required. (Especially here in the forest area and mountains of Virginia) You can belt-carry a small multi tool with full saw blades and full serrated blades that will do the job better than a 30% serrated edge on your survival knife, if and when you find the need for this use. In this article we are assessing the best compromise for the "all around survival knife", but even one's own topography can be a factor in how often or to what extent a serrated edge is needed.

## TYPE OF BLADE SHAPE AND TYPE OF STEEL USED

An important aspect to consider is the shape of the blade itself. What the novice may overlook is the critical design configuration of a good survival knife blade. Don't be influenced by the appealing sight of an *exotic concave clip blade*. This is where the front top portion of the blade sides are machined with a concave scoop, and usually curves up as well, giving it a Bowie appearance or a Hollywood showboat look. I'm not knocking all of these blade designs as being completely inappropriate survival designs, but the general rule of "mass versus use" does apply here. The clip blade design lends itself to a thinner front mass of steel. The probability of this less "meaty" design blade breaking off at the tip under extremely challenging use is a factor to consider.

The strongest blade design for a survival tool knife is a drop point knife blade. (*"The drop-point format lowers the point for control, but leaves the point extremely strong."* – Joe Talmadge, *Custom Knife Encyclopedia*.) Drop point is a knife blade that has a downward curve on the top "spine" of the blade from the handle of the knife to the front (tip) of the blade. This allows the unsharpened top (spine) of the blade (where the knife blade is thicker and much stronger) to continue forward all the way to the tip of the blade.

Then it "drops" downward toward the sharp bottom belly edge where the two edges (dull top spine and sharp bottom) meet at the tip. On a properly designed survival knife manufactured by a company that "knows it's stuff", the point tip of a good drop point survival knife will be located about 2/3 to 3/4 off center towards the top of the knife blade. In other words, the point will not meet at the exact center of the knife front, but will be "cheated" upwards towards the top center of the blade, yet the front top will drop off to this point end.

To illustrate this a little better, just imagine the nose of a shark as viewed from its side, and you'll get the basic idea. This design will take a lot of digging, puncturing, scraping, and carving abuse without breaking. It's by far the best all around blade shape for your personal survival knife. (See photo next page)

This “drop point” curve is purposely designed into the blade for front tip strength.



Since your knife will be your most important asset in a long term emergency survival situation, don't cut costs by purchasing one with inferior steel material. You will want your knife to stand up to the task without breaking, and also keep its sharp edge as long as possible. Whether you want a stainless blade or a regular carbon blade usually comes down to a few matters of physics. Generally, a stainless blade is a little more difficult to sharpen, but keeps the sharp edge longer than a regular carbon steel blade. This could work against you, however, if you lose your sharpening tool and have to resort to natural stone to sharpen the blade edge. (I still prefer stainless). Your blade is going to need sharpened from time to time even with moderate use. When shopping around, ask for a stainless knife of the higher quality 440V steel, AUS8 (or 10), or even the newer exclusive BG-42 steel. Also, a good quality regular high carbon steel will outmatch a poor quality stainless blade with a low carbon content any day. There are some great non stainless (carbon and alloy) blades on the market which are superior knives. Try 1095 or 52100 steel for toughness and edge holding ability. Just keep them clean and lubricated against rust and they can out perform certain stainless blades for your survival needs. Bottom line -- buy quality steel, whether stainless or regular carbon. Ceramic blades are very sharp, hold an edge long, but are brittle -- not what we want here. Lighter than steel and non-corrosive, titanium is used in some knife making. These are greatly resistant to sea water and are mostly used in scuba gear applications. They don't hold an edge as good as the top steels. Although novel advancements are being made with coatings for Ti knives that increase hardness, we'll pass on these for now as an all purpose affordable survival knife.

Let's finish by briefly discussing the option of a folding knife for our survival needs. The advantage of a folding knife is obvious ... it saves space.

It makes good sense to carry a smaller folding blade knife as a backup to your full tang survival knife. These come in different designs, as far as how the blade folds back into the handle. 1) The lock blade style is a spring design where the blade swings out of the handle, and upon full extension, drops into a notch on the top back part of the knife. To swing the blade back into the handle you must push down on the locking mechanism. This releases the blade, whereupon you can fold it into the handle once again. 2) The liner lock style provides a steel locking piece which positions itself behind the blade, when the blade is extended into full position. To release, push on the liner notch, and fold the blade back into the closed position.

The liner lock is a stronger locking style than the lockblade, but, since we are using the full tang knife as our primary survival knife when a lot of force may be needed, I feel that a lock blade is better for actual low energy working task usage than a liner lock. Liner locks can fill up with dirt or other debris and become difficult to fold in and out. Lock blades are machined "looser" and don't have this tendency. Fingers slipping into a knife blade while trying to force it opened or closed is not desirable. Deep finger cuts mean infection possibilities, and reduced manual dexterity. When picking either a lock blade or a liner lock for your backup knife, make sure that you try it out first to see the ease or difficulty of using the locking mechanism. If it's comfortable for your own personal use, and easy to operate, then it will most likely do well as your light duty backup. Just remember that it will not be as strong as your full tang knife and learn to respect this difference.

Other than some supplementary features to consider, such as a lanyard hole in the handle, and non slip material for the grips when wet, hopefully this should be enough to give the reader a primary idea of what to look for in a quality survival knife. God bless and good knife shopping.

Quick links to some well known knife companies:

<http://www.kabar.com/knives>

<http://www.sogknives.com/outdoor/knives.html>

<http://www.gerbergear.com/Survival/Knives>

<http://www.buckknives.com/>

<http://www.spyderco.com/>

<http://www.crkt.com/>

<http://www.ontarioknife.com/>