



WHAT DO WE WANT FOR OUR ARROW SET-UP?

Author Eric Newman

When building an arrow for hunting, do we need a pass-through shot or not? Many bowhunters prefer to have an exit wound. Rifle hunters, however, often choose to have their bullets stop just under the hide on the far side, thereby delivering all the energy of the bullet to the animal. Today, if bowhunters would look at adopting this approach and use the correct broadhead. We could create a large entrance hole and wound channel that stops on the animal's far side resulting in quicker deaths and faster recovery. Naturally, the arrow's weight and broadhead selection must be correct for the bow set up and the hunted animal. The assessment does not include hitting any significant bones.

When we are setting out to build a lethal setup, we must turn to physics. We must look at what causes penetration. If we look at kinetic energy, the kinetic energy is transferred to the target when the arrow impacts. The transfer of kinetic energy is "work." $Work = FD$

F =Force, Force, in this case, is the amount of friction against the arrow while moving through the animal till it stops.

D =Displacement, for what we are looking at, will be the arrow at impact until it stops. $(KE - KE = 0)$.

When building an arrow for hunting, the amount of work performed will come down to the amount of kinetic energy the arrow possesses upon impact and the resistance being applied to the arrow as it moves through the animal. When we get a pass-through, the arrow still has energy. At that point, all additional energy is wasted.

How do we build an arrow, so we no longer have wasted energy? We build a setup where the arrow will stop at the animal's offside and give us the largest wound channel possible. We must look at the build's design; what this entails is knowing your arrow's kinetic energy. The amount of kinetic energy each arrow possesses depends on these factors: Bow design (type), draw weight, draw length, and arrow weight. The more kinetic energy the arrow has, the deeper it will penetrate in all mediums. With low kinetic energy setups and when pursuing extra-large animals, we need to choose a broadhead design to enhance penetration. Kinetic energy below 45 is where I would call low energy. My opinion only.

Arrows with high kinetic energy will do more work. If you are shooting a high kinetic energy-producing bow and arrow setup, you may want to choose a larger broadhead. Again it's a sliding scale that changes with the animal to be hunted and the kinetic energy produced by the individual bow and arrow setup.

Advantages of larger cut broadheads mean more cutting surface, more blood loss, and a quicker death. The bottom line is to use all or at most of the arrows energy cutting tissue. We should all strive for this again with proper shot placement. We need a broadhead that will always reach the far side of the animal.

What size of a cut do we need? We can only test and see. Increase the cutting surface size until you are no longer getting a pass-through on the shot but are consistently stopping in the offside shoulder.

What if you are not reaching the offside shoulder in the build you have now? You increase the mechanical advantage of the broadhead, or you increase the arrows mass or both.

Back to the question, A pass-through or a non- pass-through? To get the most arrow lethality, you want the largest cut size and design that reaches the offside of the animal you are hunting.

I'm not promoting not getting a pass-through. I am saying use the largest cut broadhead to get to the offside at a minimum, giving the most cut surface possible.

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