



David Rolls and The Slope Doper

**by Dr. Jim Clary
Guns and Shooting Online
2009**

One cannot discuss one of the most useful tools for hunters, The Slope Doper, without saying something about its inventor, David Rolls. David was a bold man, bigger than life, who dedicated his life to the service of others. Yet, he was full of fun and a little mischief. He had little tolerance of fools (a man after my own heart); but, had great respect for those who deserved respect. It was a loss to all when he passed away in August 2008 at the young age of 61. That being said let me tell you of how he lived and what he accomplished with The Slope Doper.



David P. Rolls, photo courtesy of John Rolls

David worked for years with the Baltimore City Fire Department as a firefighter and paramedic, retiring at 45. Not being content to sit around, he applied for a job with the Sheriff's Department of Mineral County, West Virginia, and graduated from the state police academy. No small feat for a man of any age, let alone one in his forties. David rose to the rank of Sergeant and held that rank until his passing. As a firefighter, paramedic, and police officer, he was the kind of man you would want if you were in a tight spot. He never backed down when it came to helping others. Throughout his life he was active in the Boy Scouts and community activities. He was a lifetime member of the NRA holding the status of Golden Eagle and Certified Firearms Instructor.

As a shooter, David was intensely interested in tactical competitions and was a member of the American Sniper Association. Long distance tactical shooters are

frequently faced with the problem of making adjustments when shooting uphill or downhill, as well as windage and normal bullet drop. Chucks Hawks provided a superb discussion of the effects of uphill/downhill shooting for the hunter (http://www.chuckhawks.com/shooting_uphill.htm). I strongly urge every reader to look up Chuck's article to better understand the problem. Even knowing that we will be shooting over our target (or at best higher than our aiming point), most hunters do not know how to make the required adjustments in the field. Something had to be devised that could be used quickly in the field by the average hunter. Enter David P. Rolls!

After a great deal of thought, David showed up at the Carlos N. Hathcock II Charity Sniper Competition at the Storm Mountain Training Center in 1998 with a prototype of his Slope Doper. It was somewhat crude by comparison to the current day production model, consisting of a laminated paper protractor with a weight and string.... But, it worked. It allowed a shooter to determine the impact point of his bullet when shooting at any angle. David had succeeded in combining the science of mathematics with the practicality required for field use. It should be noted that military shooters have used protractors for years, but they had to subtract numbers to arrive at the correct angle. Dave's invention placed the zero degree point at the top of the arc, virtually eliminating the possibility of error. Ever the perfectionist, with an eye to the future, he asked his best friend, Fred Fischer to design a "professional" version with AutoCad, which Fred gladly did. Fred also had contacts with a manufacturer who happened to be a shooter and they were off. Fred still chuckles when he remembers all of the last minute "minor changes" that Dave came up with... but, at least they had the basic artwork locked into the AutoCad program to go into production. The rest is history.

The Quantico marine sniper instructor who was the first military member to see a production version of the Slope Doper (and incidentally a member of the two-man team who won the Carlos Hathcock Sniper Competition) was impressed enough by it to (without making an initial comment) remove his personal protractor from his data book and replace it with the Slope Doper David gave him. The Slope Doper is now standard issue with the Marine Corp sniper weapon system; i.e., The Slope Doper is packed with each rifle and its accessories. The pointer is easily replaceable with string and a weight if it is lost, and the printing on both sides is actually fire resistant. It is mil spec and made to withstand combat conditions. It is aluminum rather than plastic so that it will not break in cold conditions. The sizing is deliberate so that it will easily fit in a pocket or logbook. The U.S. Marine Corp has ordered over 3,000 Slope Dopers to date, while the U.S. Army has ordered.....ZERO! I guess that explains why the Marines have the best tactical shooters among our military. If the army brass really wanted to

properly equip their sharpshooters, they'd be supplying them with Slope Dopers, just like the military in several other countries have done.

To understand how the Slope Doper works, it is best for me to let David tell you in his own words: "To begin with, you must understand that when you shoot up or downhill, gravity has a diminished effect on your projectile such that if you do not make any adjustment for angle, you will likely shoot over your target. This applies at long distances (greater than 300 yards) at slight angles and at severe angles (greater than 30 degrees) at lesser distances. With slight angles at short distances the adjustment may not be enough to worry about. The Slope Doper is a photo etched, anodized, aluminum plate that has two scales inscribed along an arc. The first scale tells you the angle in degrees, the inner scale gives you the cosine of the angle (what I call the "Slope Angle Factor") at 10 degree intervals. To use the Slope Doper, you must first know the range to your target. Next you have your partner (guide) hold the Slope Doper along side the bore centerline of your rifle while you take aim and read the Slope Angle Factor. If you are alone, you can sight your target along the top edge of the Slope Doper and capture the pointer with your thumb and then read the Slope Angle Factor. If you are not at an exact Slope Angle Factor, it is easy to interpolate. Now take the known distance and multiply that by the Slope Angle Factor. The answer you get is the effective range. You should now shoot as if the actual distance is the lesser distance (at 30 degrees, a Slope Angle Factor of 0.87, 500 yards becomes 435 yards). All other environmental factors, like wind, are still in effect at the actual distance (500 yards of wind is still 500 yards of wind)."



The Slope Doper, courtesy of John Rolls

To make my life easier, I attached some Velcro to the back of my Slope Doper and on the forend of my rifle. After using my rangefinder for distance, I simply point my rifle at the target, capture the pointer with my thumb, read the Slope Angle

Factor, make a quick mental calculation, and shoot. If you are an experienced shooter with a scope that has a mil dot reticule, the back of the slope doper has your ranging formulas.

The Slope Doper is a must-have for every person who hunts in mountainous country, from the Appalachians to the Rockies; it will help prevent you from missing your quarry. It is a bargain when compared to the \$300 - \$500 we pay for our rangefinders and binoculars. At the present time, your best source for the Slope Doper is U.S. Tactical Supply, Albany, Oregon for \$19.95.

A final note: I was watching the outdoor channel last week and watched a hunter on a ridge shoot over a 6x6 bull elk in the valley below. The elk disappeared, and the show ended with the hunter and guide talking about the thrill of the chase, even though they missed the elk. Good for public relations; but, not so good for the freezer. They should have had The Slope Doper!