

Hard Target Interdiction

By: Michael Haugen

In the late 1980's, a call was placed to the Special Operations Target Interdiction Course (SOTIC) at Fort Bragg NC with questions concerning several aspects of sniping Army style. One question asked was "hey what do you guys call the big fifty sniper rifle" After a slight pause and several somewhat bewildered looks, one of the instructors responded "the Special Application Sniper Rifle or SASR". As usually happens, a military acronym was borne spontaneously. The SASR became the centerpiece in what was to be known as Hard Target Interdiction or HTI.

Hard Target Interdiction is defined as the interdiction or strike on a hardened target (vehicles, communication system, radar system, etc.) by means of precision large caliber long-range weapons fire.

Before we can begin to understand HTI, we must first understand the entire family of Sniper Weapons System (SWS). In military circles (especially Special Operations), we have three classes of sniping, Light, Medium and Heavy.

The light SWS family encompasses all of the 7.62mm x 51mm NATO (.308) systems such as the US Army M24 and M21, USMC M40 and the non-standard USN systems. Additionally all 5.56mm systems fall into this category.

The medium SWS family remains to be controversial but most would agree that .300 and the .338 Winchester Magnum systems fall into this category. The .338 Lapua Magnum also falls into the medium SWS family although some will argue and say that it should be in the heavy family instead.

Now onto the point of the article. The Heavy SWS family consists of all SWS that are larger than the light and medium. Most notable of this family is the .50 caliber (12.7mm x 99mm) Special Application Sniper Rifle (SASR). While there are other calibers available on the market today, the .50 caliber dominates the military SASR arena.

Before I begin a dialogue on the current heavy SWS, a short history lesson is warranted. According to noted historian, author and TS staff member Peter Senich in his book titled "The Complete Book of US Sniping" the established need for heavy caliber weapons to be used specifically for sniping began during the First World War. During "The War to end All Wars" the Germans employed heavy steel plates in front of their hides in order help reduce the effect of allied snipers. The allies then had the added problems that even when they found the Hun snipers; they could not eliminate him because the ammunition of the time could not penetrate the plates. Therefore, several British officers decided to try some civilian large caliber big game rifles, which proved to be effective in destroying the plates, which exposed the sniper and/or forced him to move. The Germans in turn (who had armor-piercing ammunition) employed 13mm Mauser bolt action antitank rifles against allied vehicles and hardened sites with considerable success. Following the First World War the United States began experimentation of a heavy .50 caliber machine gun, in several cases these were 13mm Mauser rifles re-chambered in .50 caliber for testing. Out of these tests, the M2 .50 caliber HB Machine-gun was born. The M2 has the ability to fire both fully auto and semi auto and has provisions for the attachment of telescopic sights. During W.W.II M2's with scopes accounted for some outstanding shooting at 2,000 plus yards. Use of the M2 for sniping really wasn't officially considered a reality until late into the war. Snipers and sniping was dropped right after cessation of hostilities so the development of the heavy sniper system was dropped. During the Korean War, a need was identified again for a heavy long-range sniper system. Early in the war, .50 cal's served both as machine-guns and sniper weapons. In the sniper role, the big 50's saw limited success mainly due to a lack of understanding and instruction. An Army Ordnance Officer by the name of Captain William Brophy who had experience in World War II (Pacific) immediately saw problems with sniper training, equipment and employment. On his quest to enlighten others on snipers and sniping, Cpt. Brophy found out that targets were frequently seen beyond normal .30 caliber range. He therefore decided to remedy the situation and a .50 caliber aircraft barrel was fitted to a Soviet PTRD 14.5mm anti-tank rifle. Extensive testing was not conducted but the weapon did prove to be effect out to 2,000 yards. Another weapon to come out of the Korean war was the Boys Anti-tank rifle converted to .50 caliber by Ralph Walker of Selma Alabama who was stationed on Formosa (Taiwan). The .55 caliber Boys rifle was fitted with a M2 barrel and tested with varied results (mainly due to ammunition). These rifles were used against the Chinese throughout the war with decent results at ranges up to 1100 yards. Lieutenant Colonel Frank B. Conway, who was stationed at the Aberdeen Proving Ground, converted a German PzB39 anti-tank rifle to .50 caliber in the late forties and early fifties. He conducted many tests but official sanction never came. In the sixties LTC Conway conducted tests using the new ART scope and found, that a shooter could hit targets out to 1300 yards frequently. With the advent of the Vietnam War, the interest in the heavy, SWS continued on a lower, usually unofficial level. The M2 HB machine gun continued to be used in

sniping roles at times having great success. Most notable of course was Carlos Hathcock's documented successful use of the weapon out to ranges of 2000 plus yards.

For the most part, heavy SWS development ended after each conflict. However, in the mid eighties the United State John F. Kennedy Special Warfare Center and School (SWCS) stood up the Special Operations Target Interdiction Course (SOTIC). In addition to the already extensive curriculum, the heavy systems were introduced to provide the students with an overview of their capability. As a direct result of SOTIC's involvement, .50 caliber systems begin to receive more and more attention. When operation Just Cause kicked off, .50 caliber Sniper Weapons System's were against several high value targets by both US Army and US Navy shooters resulting in limited success. When Desert Shield began the demand for .50 caliber systems rose sharply. Both the US Army and the USMC sought out and took possession numerous .50 caliber sniper weapons systems. Each service and branch had a different concept for their use and employment. The US Army purchased several of these systems for counter mine operations in which the weapons would be used to shoot land mines to detonate them. The Explosive Ordnance personnel these systems were given to soon found out that hitting a land mine (approximately 10" around) was easier said than done. In order to hit them they had to move within the danger radius of the mine, which was not conducive to good health. The USMC wanted the weapon for a more conventional use, which was to defeat, hardened positions. In fact, there in one scene of a sniper (presumably) lying next to a main battle tank shooting at a bunker. Special Operations forces used the heavy systems for more specific targets with better success but there were still some problems. One of the biggest problems was ballistic data for the weapons, which no one had. In addition, the sand played hell with the guns coating the chambers with silica resulting in feeding problems. Because of this conflict, heavy systems have become more accessible and several schools now offer specific courses in their use. Additionally, several manufacturers have designed and built .50 caliber systems to meet the military's needs. The big fifties are definitely here to stay and will be employed in any future conflicts probably by both sides.

The concept behind HTI is somewhat different from conventional sniper operations. First and foremost is that the SASR is to be employed against hardened targets at extreme ranges. The type of targets that the SASR is employ against would be communication systems, radar systems, command systems, missiles, crew served weapons, aircraft, etc. This concept requires a different mentality and training than normal systems. The minimum HTI team comprises three personnel. One is the shooter, one is the spotter and one is the security element. Of course, the mission will dictate team composition but this is normally the minimum for combat employment. This is imperative because it takes both the shooter's and spotter's full attention during the setting up and fire mission. Additionally, the actual shooting position is different from a normal sniper mission. The spotter needs to be directly behind the shooter in order to keep from receiving the shock wave of the big fifty. One word on this, you can become physically ill due to this shock wave, I can personally attest to this fact.

Selection and training for HTI shooters is also somewhat different from conventional sniper courses. First, the HTI candidate must be a trained qualified sniper already. He must be competent and capable. The weapons system weighs approximately 25 pounds so he must be physically fit. HTI employment requires a high level of math understanding due to the advanced ballistic calculations; therefore, the candidate must be intelligent. Training with the system deals more with employment, advanced ballistics and mission planning than actual shooting. Keep in mind that this system is used against targets out to 2200 meters and to obtain first or second round hits the sniper team must do the range estimation and mission planning correctly.

Currently there are numerous systems available today for HTI employment. All offer advantages over the others, however I must admit that most systems are relatively comparable to one another.

RAI Model 500 .50 caliber rifle is one of the first "modern" SASR's. This rifle is also known as the Haskins .50 caliber or the Daisy .50 caliber. It is a unique system incorporating a tuning system in the forearm that is set to match the harmonics of the barrel when fired. This helps to reduce the felt recoil and thus increases the accuracy of the weapon. The Haskins .50 caliber is a single shot rifle requiring the shooter to remove the bolt after each round is fired. The shooter actually places the rim of the cartridge into a slot on the bolt, then inserts this combination into the receiver. The Haskins is an extremely accurate system. I have personally fired this weapon out to 1800 meters and acquired about an 80% first round hit probability. The weapon uses a removable muzzle brake, which at one time allowed the shooter to choose between several types of brakes. A note of caution here to anyone encountering this system. It is possible to install the muzzle brake on backwards which will send the after shock directly onto the shooter and spotter (not a pleasant experience).

The Barrett M82A1. This weapon is designed and built by Barrett Manufacturing in Tennessee. The US military purchased this weapon in large numbers during Desert Shield when the need for a SASR became evident. At that time, it was the only semi-automatic readily available SASR on the market. The weapon breaks apart into several pieces for ease of transport. The M82A1 is a mass produced weapon and as such suffers from some of the inherent problems with this

production system. The receiver is of stamped steel construction, which although rugged can become damaged. Should the receiver become damaged at all, the bolt cannot slide forward to chamber a round. The weapon uses a box magazine that does function reliably. Overall, the weapon is functional and accurate for conventional purposes such as engaging stationary vehicles out to medium ranges (1000 – 1400 meters).

The Barrett M90A1. This weapon is similar in design to the M82A1 except that it is a bolt action variant in a bullpup design. The magazine is behind the pistol grip. Like the M82A1, the gun can be broken down into smaller sections for transport. The M90A1 is shorter than the M82A1 and lends itself to alternate infiltration methods better. I personally like this weapon much more than the M82A1. It has less moving parts and seems to be more dependable. I only fired it out to 1000 meters but I was impressed with the lack of recoil and the accuracy it did display.

There are several more systems available today such as the McMillan M93 and M92, which are proving to be both capable and highly accurate. The McMillan M93 is gaining favor among Special Operations Forces due to both its accuracy and ease of use. The biggest problem facing .50 cal SASR shooters is the availability of ammunition. There are basically 5 types of ammunition available to military SASR shooters. The Mark 211 Mod 0 Raufoss, M20 API-T (Armor piercing Incendiary Tracer), M33 ball, M8 API and the M903 SLAP (Saboted Light Armor Penetrator). Now before anyone gets excited, there are other types of .50 caliber ammunition within the military channels. However, the ones I have listed are those that we have found to be suitable for sniping purposes. Each of these projectiles offers some advantages over the others. In some cases, it may be just sheer availability, others offer superior ballistics. The Raufoss round is generally considered superior to most others for sniping against lightly skinned targets at extreme ranges. However, this ammunition is somewhat difficult to obtain. The M8 API is an available conventional round and does fly very well in addition to having good terminal ballistics qualities.

SASR employment is somewhat different from other systems, mainly because of the special nature of the weapons system. If the weapon is to be used as designed to hit targets at extreme ranges, than proper mission planning and support are essential. The HTI team would plan the infiltration; movement to the Final Firing Position (FFP) target engagement and exfiltration. The biggest problem for the team will be accurate range estimation. At extended ranges, exact range estimation/determination is essential. If using the M8 API shooting at 4-meter (16 feet) high target at 1800 meters, the shooter/spotter must be within 79 meters of the actual range in order to hit the target. This means if the shooter has 1800 meters dialed onto the gun and the target is actually at 1720m or 1880m he will miss. Therefore, the HTI team will use every range estimation method available to them. Mil dots are useless at this range, so they will employ laser range finders (so long as the enemy cannot detect it), maps, GPS, etc. As can see that this can very become intensive. Another problem is environmental. Most shooters who have never worked with the SASR at extreme ranges believe that it is just like any other SWS. It is not; environmental play hell on the round out at ranges beyond 1100 – 1200 meters. A 30-degree temperature change at 1500 meters can produce a 4 moa change in impact. Now let's review that. At 1500 meters, 1 moa = approx. 15 inches, so 4 moa = 60 inches. This is before all of the other problems like range estimation. Another problem that HTI teams encounter is slant range shooting. Keep in mind the type of environment this system is designed for, desert, mountainous, etc. Slant range problems over extended range combined with all of the other effects cause huge problems, which have to be overcome in order to remain successful.

The SASR is an extremely useful system but for specific situations. It has been employed against hardened sites and critical equipment with very good results. One unique use of the weapon has been by the French in Bosnia in the counter-sniper role. They employed the McMillan M93 in conjunction with a 20mm rifle allowing them to penetrate any obstacle in order to deter or suppress enemy snipers in buildings. They found this system highly effective. The McMillan was used to push the enemy snipers into a desired section of the building then the 20mm is used to eliminate them (and that section of the building).

As time goes on more and more development will occur concerning this weapon system and caliber. New larger weapons are being produced, however it seems that the .50 caliber SASR is destined to remain the system of choice for missions requiring a man portable highly versatile weapons system. As the Marines like to say, "Why run, you will only die tired".

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