



The 577/450 Martini Henry

By Bob Shell

<http://writerbobshell.com>

Introduced in 1871 to replace the 577 Snider which was considered a stopgap measure until England came up with a breechloader rifle for the military. The British formed an ordinance select committee in 1864 to begin a search for a suitable military arm. At that time Great Britain ruled much of the world but had competition. They understood that the military had to be equipped with the best possible weapon to keep up with its neighbors. They made the decision to bring out the Snider but they knew that it had drawbacks such as long range accuracy but it beat the muzzle loading Enfield that it was converted from. After exhaustive testing the Martini Henry falling block was chosen over its competitors. The rifle combines an action patent by Friederich von Martini a derivative of the Peabody action by Henry Peabody and a rifling system designed by Alexander Henry. They were 49 to 52' long and weighed about 9.5lbs depending on wood density. There were several versions produced starting with the Mark 1.

Production began in 1871 at the Royal Small Arms Factory (RSAF). Between 1871 and 1876 there were some changes made because of unsatisfactory performance. Among them were the trigger which was too complicated and the sights which were considered too fine for general military use. The buttstock was bored from the rear allowing a large screw to hold it to the receiver. The rifle had a long and short buttstock for different size soldiers. It had a checkered iron buttplate which I imagine was a big hit in view of the recoil. That was changed on later models. It has a small metal cup on the stock to hold the lever in place when it is closed. The sling swivel was placed to the rear of this. The receiver was a single block drilled to accommodate the various internal parts required. The rear has a threaded hole for the stock screw. The front was threaded for the barrel and shaped for the forend and cleaning rod. A shallow indentation was made as a thumb rest while there were several holes drilled in the sides for pins that held the inside parts in place. The upper top of the receiver is drilled to receive the pin which the breech block swivels. There is a smaller hole drilled below that to retain the breech block pin. At the bottom of the receiver is a hole drilled for the lever and tumbler. The breech block is located inside the receiver and tips forward enabling it to be loaded. It was drilled from the rear to enable the firing pin and spring to be inserted. The top of the block has a groove which helps line up the ammo and inserts it in the chamber. Its top rear portion was cylindrical in shape and fits into a matching recess milled into the receiver. A hole was bored through this to contain the axis pin around which the block swiveled. The early models had a bronze pin which was replaced by an improved one made of steel as the bronze would loosen after some use. The trigger plate closed the bottom of the receiver and parts related to the firing of the gun. The trigger was held in place by a screw and with the tumbler rest and tumbler formed the trigger group. The tumbler had an arm that engaged a slot in the firing pin that forced it back against

the coil spring when the action was cocked. The front of the trigger plate contained the extractor which was hinged around the retaining pin. A hole was drilled through upper front of the trigger bow being used to retain the lower sling swivel. The cocking lever was also hinged around the pin that retained the tumbler in the trigger plate. The lever has two arms that act on the breechblock to allow loading and forcing the firing pin back thus cocking the action. Depressing the lever also extracted the cartridge from the chamber. The original barrel was slightly over 33" about par for the course during that period. The rifling had 1 turn in 22" with seven grooves. The rear sight was brazed to the barrel and was adjustable from 100 to 1300 yards using the leaf sight. The front sight was a barleycorn on top of a block also serving as a bayonet lug on some rifles. The forend was secured by two split bands, common for the day. While it sounds like a complicated design it is very simple to operate and it was reliable. You just worked the lever and it brought out the empty and cocked the gun at the same time. Drop in a new round close the lever and you are ready to shoot.



577/450 with 500 grain bullet

With the adoption of the 303 British rounds in 1888 one would think that the 577 was shelved. Not so. The Brits like many countries wanted to save money and use their supply of guns and ammunition so they modified the Mark 1 and called it a Mark II. Some of the newer rifles were converted to fire the 303 round. There were two types of Martinis for the 303 British round. The Martini-Medford was for the black powder version while the Martini-Enfield was for Cordite. The Medford wasn't considered suitable for Cordite which produces much more pressure than black powder. For the first few years the 303 was loaded with black powder and a 215 grain bullet. I have seen both versions for sale in the Shotgun News among other publications. In fact the original rifle is for sale in a couple of publications. In 1891 the design for the Mark II was approved for second units and colonies. It was felt that they did not need the newer 303 bolt action rifles a common attitude among the European nations toward their colonies. Without much doubt there was some concern that some of the colonies might rebel and it would be better for the mother country if they had obsolete weapons rather than the state of the art types. Some of the changes included shortening the barrel to 21.25" and modifying the muzzle to accept a bayonet. The front sight was reattached to the barrel and the bands were changed to hold the shorter forend. In September of 1891 they also launched the Mark III. It looked like the Mark II but had a few differences such as using the action from the Mark I and a modified Mark II forend made necessary by the differences in the action. There were differences in the nose cap, forend bands and the cleaning rod. Apparently there weren't many made. The Maxum machine gun 1886 also chambered this round for a few years just as a note. While no one knows for sure between 500,000 and a million were made during the production run. Besides the RSAF other companies manufactured various models of the 577. That would include Birmingham Small Arms and Metal Company LTD and National Arms and Ammo Co. Ltd. The MH is one of the great single shots of the period ranking up there with the rolling blocks and trapdoors.

Originally loaded it used a brass foil type of cartridge which was later made in standard brass casings. The brass foil had some durability problems especially when the gun got hot or the chamber got dirty. Like everything else about guns they had to learn to draw good quality brass

which by the later part of the 1870's that was accomplished. The military load used a 480 grain bullet at about 1350 feet per second which was very respectable for that period using 85 grains of black powder. They used a glazed cardboard disc to take up the space between the powder and bullet. To cut down on recoil they had a 410 grain bullet ahead of 70 grains of powder. A cotton fiber wad was used to take up the airspace between the bullet and powder. Later on the powder charge was reduced to 63-65 grains in the carbine. However the ammo was completely interchangeable between the guns which were a good feature. They also made buckshot rounds comprising of 11 balls of .275 in diameter. Shot loads and blanks were also made. When Cordite started being used all of the ammo including blanks utilized this propellant.

The rifle was made famous during the battle of Rorke's Drift in South Africa. During that battle 140 British soldiers defended their position against some 4000 Zulu warriors in a successful manner. Also some 20,000 rounds of ammo were used during those two days the battle took place. I am sure glad that I didn't have to carry that ammo. However sometime before that the British lost the battle of Lsandwana due in part to faulty ammunition. The early cases had an iron head and brass foil wrapped cases. In high temperatures along with the black powder fouling these fragile cases were hard to extract. They had to be pushed out with a bayonet or some other long rod which definitely slowed things down. During the heat of battle that without a doubt got quite a few soldiers killed or injured. After studying the problem the decision was made to use solid drawn cases such as we have today. Poor tactics and being outnumbered also contributed to the British defeat. Another change was the long lever which gave a soldier more leverage to extract a stubborn case. If you pulled the lever hard enough it could extract and eject the case which would be an advantage in a battle. Once that was done the rifle was very reliable as the cartridge cases were as good as the rifle. In 1884 they tried a 40 (402 diameter) caliber version but later converted back to the 45 because that 303 came out and they didn't want three different calibers. The reason for the 40 caliber was to obtain about 1700 feet per second to flatten out the trajectory. The 577/450 was used by the British until they adopted the 303 in 1888. They were used by reserve units after that date for some years. In fact it was used in some respect until after WWI. During WWI they were used by airplane pilots to shoot down observation balloons and other aircraft much the same as the 11 mm French Gras. Some of the colonial police used them until 1939.

There were other countries that used the Martini Henry in the military service. Turkey used one during the 1870's but it was chambered for an 11 mm that they used at the time. The Portuguese used an 8 X 60 R Guedes and a rifle based on the Martini Henry. Since it was in 1885 the rifle was short lived because everyone was going to repeaters. There were some rifles known as the Khyber Pass Rifles made in the areas of Pakistan and Afghanistan They took rifles that they acquired and copied them. Since they had primitive methods and suspect materials they are not considered safe to shoot especially with modern ammunition. Nepal also manufactured this rifle in the 577/450 chambering. There was a 577/476 which was a slightly elongated case for shot. It was used in India with a smooth bore rifle.

My sample came from Nepal known as the Gehendra rifle. (As a note the Bira machine gun made in 1896 and 1897 was chambered for the 577/450 and made in Nepal.) The rifle closely resembled its British cousin and had a good reputation for quality for the most part. My rifle is one of these models and it does have good quality though the receiver is bigger then the British version. The finish and wood fitting is decent for a military arm of that time. There is writing all over the receiver and trigger guard that I can't make heads or tails of. From what I can tell some of the writing was a prime minister's name date of manufacture and possibly a serial number. The rifle is a massive affair as befitting such a cartridge. It is a single shot and has a lever underneath that opens

the action and cocks it. The shell is extracted out about a half inch or so but not ejected. There is no safety which was fairly common for the period. In my opinion the lack of a safety is not important as the real safety is the person handling the firearm.

There were a decent number of Martini Henrys made for sporting use. They were fancier and didn't have full length wood or a bayonet lug. Although they could be ordered in various calibers the 577/450 was the most popular. It would be an excellent large game round possessing the power for such things as bear and lion. There were some nice examples of these rifles made and I wouldn't be surprised if there are still some being used for hunting particularly in Africa. With good sights it would be capable of doing excellent work in the field.

Today there are some Martini Henrys around and they are worthwhile to shoot. Recently good quality ammo and brass have become available. They can be found in several catalogs and they are fairly affordable. Jamison makes reloadable brass that utilizes boxer primers and the quality is good. There is also brass available from South America that utilizes the Berdan primer. Those primers are available from a couple of sources but you need a special priming tool because it is larger than an American Boxer primer. They do however work fine but you need a special decapping tool for them also. Huntington Die sells the necessary equipment to prime and decap those cases. The Berdan primer is .255 in diameter and among others Bob Haley in Texas sells the primers and cases. Another thing to remember about the Berdan case is the anvil is in the case. That means that it might flatten out after a few firings at which time you will start getting misfires. The anvil will look somewhat flat and that might be a good time to discard the cases especially if they are going to be used for hunting. Both Huntington Die and Lee Precision sell the dies and shell holder. The case is based on a 24 gauge brass hull and they are available if you look for them. In a pinch you could form the 24 gauge into 577 brass though it would require some work and patience. Bullets I used are standard 458-459 in diameter though the listed diameter is 450 to 451. Like many of the older guns the barrel is oversize. I have heard of some that need a bullet of 465 or so in diameter. If in doubt you can slug the bore to match the bullet. Doing so will enable you to have the most accurate ammo. I have found that oversize cast bullets by 1 or 2 thousands can shoot quite well. Much over that and the round might be difficult to chamber.

The Lee dies that I used have 1 & 1/2 X 12" threads as opposed to the standard 7/8 X 14. They are massive and come in a box that is a lot larger than a standard die box. You need a special press to accommodate those dies and my RCBS Ammomaster serves that purpose perfectly. The dies did a good job in this instance and I would recommend them to someone contemplating loading this cartridge. The price of \$110.00 was reasonable I thought and they have a guarantee of two years. The shell holder comes with the die set which consists of three dies.

Loading procedures are standard for a three die cartridge. Sizing fired cases does take some effort however and they should be well lubed. Be sure to bell the case to avoid ruining the case and shaving the bullet. A shaved bullet is out of balance and seldom accurate. I would suggest a good crimp to enhance ignition. While a decently strong action it's not a good idea to make a magnum out of it. Since it is a black powder design I started with FFG and a 400 grain bullet. During the test I used bullets from 300 to 510 grains. I tested other loads but these seemed to be the most satisfactory and accurate. For instance I tried around 50 grains of 3031 & 4064 with a 500 grain bullet. Ignition was erratic and if I increased it enough to straighten out the ignition problem the pressures might have been too high and I wasn't willing to take that chance. Not to mention the recoil situation. With such a large case under loading is something to think about and avoid. Besides hangfires sometimes in a lab a gun has blown up with under loads, while rare is a

possibility to consider. While I would be fairly confident in pushing a 510 grain bullet to 1700 fps I don't anticipate doing that for recoil reasons. I have done that in a 45-120 and I am here to tell you it's no fun to shoot. Besides I don't see much of a chance for dinosaurs to reappear. I shoot these old guns for research and pleasure not punishment. With a gun that is over 100 years old if I can duplicate the original load with good accuracy I am content. I have newer guns for higher velocity loads.

LOAD	BULLET	VELOCITY	COMMENT
110 X FFG black powder	300 grain	1626	consistent
50 X 4197	300 grain	1793	good load
42 X 4197	390 grain	1446	consistent
100 X FFG Goex BP	400 grain	1416	consistent
40 X 4197	400 grain	1420	good load
82 X FFG Cleanshot	510 grain	1494	powerful

NOTES: I used regular black powder in some loads. Data 4197 is a smokeless powder suitable for some of the old guns. Clean Shot is a black powder substitute that is non corrosive. While you might be able to increase the loads I don't recommend it for two reasons. First of all these are strong guns they are getting old and may not stand up to the guff. That is especially true with the older models. The second reason is the recoil will increase dramatically taking away the fun of shooting it. As with all guns especially the oldies shooting glasses and ear protection should be worn at all times. When loading black powder or a substitute do not leave airspace in the case. That is a dangerous practice and can destroy your gun not to mention getting injured. If you don't want to use a full charge then be sure to use adequate wadding to take up all the airspace.

I used both Berdan and Boxer primers and there didn't seem to be any difference in performance. I would recommend magnum primers as they will ignite the powder better in such a large case. Berdan primers need a special tool to remove them and it is available at Huntington Die. They are a pain in the neck to remove but if that is the only cases you have then you are stuck with them. You also need a special priming tool with the Berdan primers and Huntington Die also sells that. I don't see any advantage to using jacketed bullets for any reason. Besides being more expensive they will increase the pressure of the load and speed up the wear on the barrel especially with the older models. Accuracy is fine with the cast and they are definitely effective for hunting.

Shooting this gun like all the oldies is an experience everyone should have. With the heavy bullet and loads recoil is invigorating to say the least. With the 300 grain bullets however it is very pleasant and accurate. The sights are about average for a weapon of this period. Once you get used to them the groups will get smaller especially with younger eyes than mine. The trigger pull is very light for a military arm of this period making it easier to shoot well. Accuracy at 100 yards is pretty decent with the best groups going around 4" which considering the sights isn't bad. Probably some more load development and younger eyes would shrink that to 2" or so. The idea in my view of shooting these guns is for enjoyment and historical prospective. There is nothing like shooting such a gun full of black powder and seeing the giant cloud of smoke. Anyone not familiar with this should acquaint themselves with it. Anyone with questions on this can feel free to E-Mail me.