

Thames Valley Guns

Armourers Report

Sabatti STR Mk2 Tactical Rifle

Introduction

The decision to purchase this rifle was based solely on research and writing my Armourers reports. My pre-purchase research suggested that this rifle had a number of interesting features that required further investigation, plus I wanted an “off the shelf” rifle that was in 6.5mm Creedmoor, so I could experiment with this calibre out to 1000 yards. As an alternative I had looked at the Ruger precision rifle, as that is also provided in 6.5mm Creedmore, however my past experiences of Ruger products put me off, plus visually the Sabatti appeared to have the edge on quality.

This particular model is the Sabatti STR MK2, (Sabatti tactical rifle) and is a magazine fed, bolt action civilian sporting



firearm that targets the “tactical” gap in the civilian shooting market and should not be confused with military spec tactical or sniper rifles. The receiver and bolt mechanism is based on Sabatti’s Rover model and the rifle differs from its Mk1 version, with the introduction of a tactical bolt handle, MDT 10rd magazine and a UDP AR style pistol grip.

Description

I often hear the comment that there are similarities to the Remington 700 and especially the bolt mechanism, however look a little deeper and there are some major and effective differences. The rifle is fitted with a good quality Victrix aluminium stock assembly with a fully adjustable butt assembly, detachable 10rd magazine, 20moa rail, fully floating barrel and a three baffle muzzle break.

The butt tube and the pistol grip have the same fittings as AR type rifles and therefore a wide range of aftermarket AR butt and pistol grip assemblies such as those from Magpul can be fitted. The forend is fitted with numerous picatinny rails, which provides a range of options when fitting various accessories.

Weight when fitted with a scope, rings and a bipod is a hefty 13.2lbs and the 25.5” heavy barrel is somewhat unusual in that it has multi radial rifling (MRR), which I will discuss in more detail in the barrel section.

The rifle is supplied with a manual, suitable for the Rover and not for the STR, certificate of manufacture and a data sheet for the MRR rifling. The fact that the manual is for the donor rifle and not for the STR is annoying, especially when details for the adjusting the trigger and stock are therefore unavailable.

History

The Sabatti brand is a relatively new name to me. I was distantly aware of the Rover hunting rifle and a little .22 semi automatic sporting rifle which has similarities to the Ruger 10/22, but generally as a brand I rarely see their rifles in the UK and therefore have taken little notice of the company and its products over the years.

The companies website <http://www.sabatti.it/en/> is a good one and is very informative detailing the various models and the companies long 400 year history which is impressive.

Thames Valley Guns

Armourers Report

Sabatti STR Mk2 Tactical Rifle

Book wise I can find little reference to Sabatti, however the company belongs to the IFG or Italian Firearms Group, which comprises of Sabatti, F.A.I.R, Pedersoli and Tanfoglio. It is the Internet where most of the information can be found concerning these rifles and to date I have seen very little in the way of negative comments.

Receiver

When you view the Sabatti's receiver for the first time you may be forgiven for thinking it fairly traditional. In terms of how it functions, it is. However if look a little closer at the surface of the receiver, you will notice it has very light mottled effect. This is because the receiver has been sand casted and sand casting is now getting to such a high quality, that very little follow up machine work is required.

The Remington 700 has a tubular receiver and the Sabatti differs considerably in that its slab sided receiver is a short action all steel cast design which is 212mm long and is 34mm at its widest point. The receiver is drilled and tapped for a scope base and is fitted with a picatinny 20MOA rail as standard, which aligns with the forend rail. This permits a wide range of rings and scope options and allows the operator to engage targets out to 1000yds. The ejection port is 84mm in length and the picatinny rail has been relieved to the same dimensions to permit a large and effective ejection port.



The barrel is fitted utilising the traditional screw thread and the receiver is machined with twin locking lug arrangement, similar to the Remington 700. Below the ejection port is the magazine well, which was designed from the outset to work in conjunction with a detachable straight stacked five or ten round magazine. As with other modern designs this ejection port and magazine configuration allows the fitting of various AICS compatible .308 magazines. Unlike the Remington 700 where the recoil lug is located between the barrel and the receiver, the Sabatti's recoil block is cast directly into the flat bottom of the receiver as shown above. On the inside of the receiver there is a rib on the right hand side of the receiver which the locking lug engages in and provides further support.

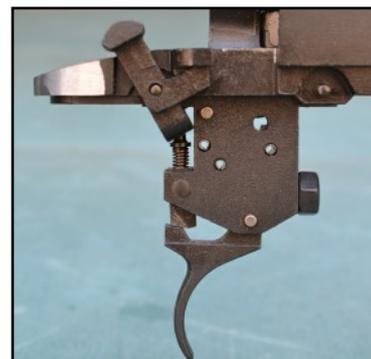
The rear of the receiver is a typical tang and had been fitted to align with the Victrix stock. This was my first minor observation, the tang had been ground to fit, no problems but the bear metal had not been re-blued, which I regard as a minor quality failing. Some re-bluing by myself satisfactory resolved the situation but its not really acceptable. On the left side and at the rear of the receiver is the bolt stop/bolt release and like the receiver has been sand casted.

External finish is matt black and markings are limited to Sabatti's, manufacturing title, serial number, proof marks and place of manufacture.

Trigger Assembly

The single stage adjustable trigger is a self contained unit which secures to the receiver via two pins. Release is very good, crisp and releases at 2.2lbs from the factory. The safety catch is fitted separately to the receiver and connects to the trigger using a spring loaded plunger. When applied, the spring loaded plunger simply blocks the trigger and prevents it rotating.

One minor point that stands out with the safety catch, can be identified when removing the bolt. As the bolt is removed from the receiver, the right hand bolt locking lug can strike the safety catch if the user is not careful.



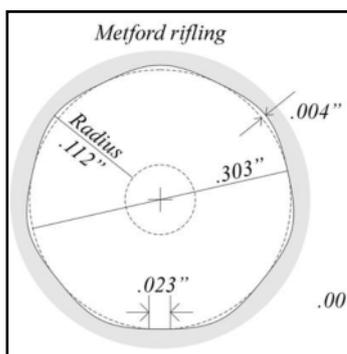
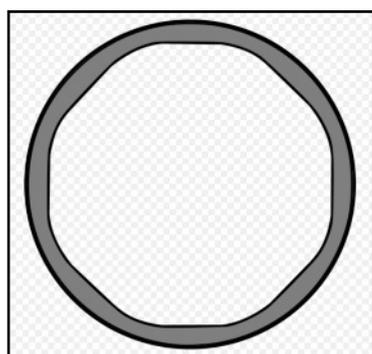
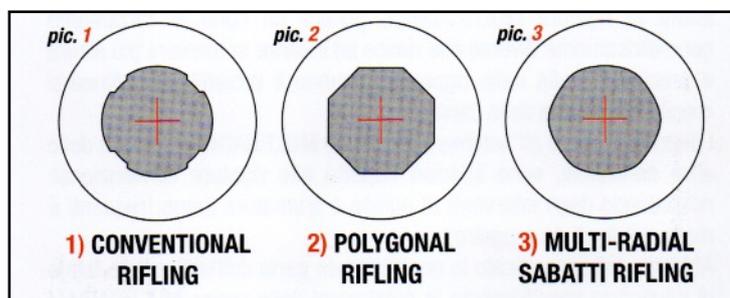
Thames Valley Guns Armourers Report Sabatti STR Mk2 Tactical Rifle

This issue can be avoided by twisting the bolt during its removal, however in my opinion this could be a better design. Trigger casing, safety catch and trigger are all sand casted components.

Sand Casting

Just a quick note on sand casting. Previously I had only seen sand casted parts on Ruger's products, clearly the process is improving, as is the quality and the reduce size of the parts, therefore Sabatti have entered the fray using this manufacturing technique. Taking sand casted parts straight from the foundry to the production line is clearly a major cost saving as the need for machining is largely removed.

However whilst quality is good it lacks the professional finish obtainable with machined parts and the mottled finish generates a matt finish when blacked. When I first purchased the rifle, cycling the action feels a little rough and requires a 100 rounds or so before the action starts to provide a more smoother feel.



Barrel

The barrel was one of the principle deciding factors for purchasing this rifle. Sabatti where advertising that this hammer forged MRR barrel provided the following attributes; higher bullet speed (12%), improved grouping, less copper deposits, less & easier cleaning and less barrel wear.

MRR or multi radial rifling is not new, with different types of rifling being used over the years, with the British Metford rifling being a good example. However since the WWII it has generally fallen out of favour in rifles being preferred in pistols such as the Glock. One of the reasons for this is the method of manufacture. Most polygonal rifling is produced by hammer forging the barrel around a mandrel. Hammer forging machines are tremendously expensive and out of the reach of custom gunsmiths and are generally the produce of large companies. The main advantage of the hammer forging process is that it can rifled, chambered and contoured from a single bored barrel blank in one step, thus saving costs.

With MRR rifling two different radius's, alternate in order to pressure form and thus grip the bullet without submitting it to extreme stress. As there are no sharp corners the bullet seals the bore more efficiently, there-

fore increasing velocity, reducing wear and producing less deposits, making it easier to maintain and clean.

However, for all the advertising, "the proof is in the pudding" as they say, with early evidence providing very convincing 18mm groups at 100yds. The barrel is 26" in length which is good for my planned engagements out to 1000yds and it is fitted with a muzzle break or a thread protector should the break not be required. My one reservation about the muzzle break, is that it is manufactured from a light alloy and

therefore have concerns about its long term durability and whether this muzzle break will withstand prolonged gas

Thames Valley Guns

Armourers Report

Sabatti STR Mk2 Tactical Rifle

wash remains to be seen. From an Armourers standpoint, I do have one point about wear. With traditional rifling it is relatively easy to visually identify wear as the the lead and the rifling clearly show signs of wear after prolonged use. Without gauges the first sign of wear will be decreasing accuracy and this will be difficult to detect on second hand guns.

Approximately 2" from the muzzle the barrel is marked Multi-Radial Rifling and near the chamber it is engraved with



the model, calibre, twist rate and the required proof marks.

Bolt Assembly

The bolt assembly can very easily be mistaken for a Remington 700 model at first glance. The most obvious difference is the extractor and the polished body. However there are

some major differences which we shall discuss throughout this section.

The bolt face is recessed thereby support the cartridge rim. The ejector is a plunger type and the extractor is a spring loaded claw which is far superior to the Remington design.

The bolt head contains the two large locking lugs and the gas vent should gas be channeled back through the primer pocket. The right hand lug is grooved along its length and this is to align with the corresponding rib in the receiver. The bolt body does appear similar to the Remington and explains

people comments about similarities. However the bolt body is polished and has a further gas vent along its length. The shroud has a flat on the right side to permit clearance of the safety catch and the cocking piece is a one piece design. The bolt handle has a tactical knob and at the stem of the bolt handle there is a redundant slot. This is a legacy slot from the Rover rifle where engaging the safety catch also locks the bolt handle. Why it has been removed on the STR is unknown.

Magazine

The STR Mk1 had a metal seven round magazine with a rubber looking floor plate, but in the Mk2 this has been replaced by the MDT .308 magazine. Whether I was unfortunate to get a bad magazine I am unsure, but this magazine has constantly let me down.



As magazines go, the MDT is a good example of the latest group of polymer magazines to be seen in the market place. I have a 5.56mm version and it functions well. It is a single stack .308 generic design that will fit all AICS magazine wells. My first problem was the presentation angle, place one or two rounds in the magazine and all was well, place three or more and it would misfeed with the tip of the round jamming up against the feed ramp. I resolved this issue by gluing a shim to the front face of the magazine as can be seen in the image to the left. All was good if I only placed five rounds in the magazine, placing seven or more, caused the magazine body to swell and therefore it would not fit into the magazine well.

Thames Valley Guns Armourers Report Sabatti STR Mk2 Tactical Rifle

This was not good. One option was to shave the side down in the hope of fitting the magazine well. However this is a “double edge sword” as you may be reducing the magazines width but you are also reducing its body strength and therefore causing it to bulge further, which is exactly what my magazine did.

What were my options, the gun was still under warranty, but I would only get another MDT magazine if I was lucky and that wouldn't guarantee the problem would go away. I was impatient and also with this report in mind I purchased a further two magazines to test.



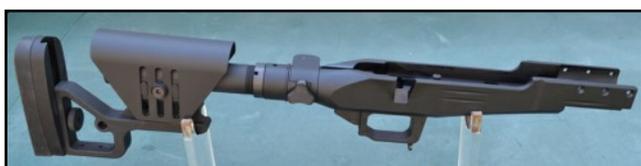
The first replacement magazine was a polymer Magpul AICS compatible 10rd .308 magazine. Testing it with 10 rounds it fitted and cycled 10 rounds without fault. It didn't swell when fully “bombed up” and was actually easier to hand load than the MDT.

The second magazine was a metal AICS compatible 10rd magazine from Accurate Mag. Although this was the most expensive of all three magazines, it was also the most efficient, fitting and cycling all 10 rounds without fault.

Stock Assembly

The stock assembly is made by Victrix Armaments, whose website is at the following address: <http://www.victrixarmaments.com/portfolio/scorpiotgt/?lang=en#tab-1-2> They have some nice looking pieces of equipment on the site with the Scorpio TGT being the closest design. I also noted Beretta's title on the website, so I am assuming there is a business link there somewhere.

The first impression is that the stock is extremely well made. The stock is machined from Ergal 55 which is trade name for aluminium 7075 T6 and I could find no evidence of burrs or machine marks. The forend is an aluminium tube and fitted with three short picatinny rails and one long rail. The forend is secured to the main chassis by nine countersunk screws.



The main chassis houses the receiver and supports the magazine catch assembly, magazine stop, trigger guard, pistol grip and butt assembly. The UDP AR style pistol grip is a good design and can be fitted with different finger grips or the grip can be replaced with any other AR style grip.

The folding butt assembly uses an AR15 tube, so again can be upgraded with other AR style butt assemblies but to be honest, why would you want to, because this is a good butt assembly design. The butt is adjustable for length, recoil pad position and cheek pad height. The cheek pad, feels like aluminium but its coating gives it a warm and almost soft finish, which avoids the hard aluminium plate that one would typically expect.

My last point on the butt is an item that appears to be missing. On the STR Mk1 the butt is fitted with a small picatinny rail which is ideal for fitting a monopod. On the web many Mk2's can also be seen fitted with this rail. Whether this is an after-market product or mine was simply missing we shall never know.

Thames Valley Guns Armourers Report Sabatti STR Mk2 Tactical Rifle



However as I wanted to fit a monopod and therefore I also took the opportunity to manufacture and fit my own rail.

Over the years I have experienced a number of folding butt assemblies, the more complicated designs tend to be good but that is reflected in the price. The more basic designs maybe cheaper but are less than perfect. The STR on the other hand is a cheaper design but is the first design that I have come across, that uses a locking screw. The screw has three thumb recesses, so it is easy to grip and with half a turn unlocks the butt assembly allowing it to pivot on its axis. Once fully folded, the screw can be tighten and locks the folded butt in place. Personally it one of the best cost effective designs I've experienced.

One last comment, is the rubber "O" ring that is located on the butt assembly tube. Like all "mauser" style actions when the bolt is fully retracted, the bolt has an element of free play, which will steadily gets worse as the receiver shows its age. With the STR, the wear is reduced by the use of the web in receiver but the "O" ring prevents the underneath of the cocking piece actually striking the butt assembly. A simple yet very effective idea.

Range Test

Preparation for this rifle was both more complicated and interesting than normal, as I has three specifications to meet, 1000 yard engagement, new rifle and a new cartridge.

The STR is available in a number of calibre's such as the .308, but I was particularly interested in the 6.5mm Creedmore due to its reported performance at ranges out to 1000yds. I had already experienced the 6.5x47 Lapua and was using this out to 600yds with excellent results. Whilst I could have used the 6.5x47 out to 1000yds the opportunity to learn a new cartridge and the fact that the Creedmore was effectively capable to 1200yds was therefore one of the deciding factors when purchasing.

The next factor was the rifle, I'm not really a target rifle man and therefore the tactical image appeals to me. I didn't have the funds to have a rifle made, therefore a factory gun in the mid price range was an attractive option. Barrel length was important as I needed to maximise as much as the propellant as possible. The STR has a 25.5" barrel and will therefore burn 100% of its propellant within the bore and the fact that Sabatti where advertising that with the MMR barrel I could generate an extra 12% muzzle energy was another tick in the box.

Another tick in the box was the 20 MOA scope base which comes as standard and this coincided nicely with a spare, but nearly new Vortex 6-20x56 mildot, which I had sitting on the shelf. Whilst not a perfect choice of scope due to the minimum magnification of choice, it did provide sufficient drum adjustment to reach out to 1000yds.

Like all my rifles, my first step is to ensure the rifle and scope setup is an effective functioning system, plus in this case, I did have to shoot the barrel in. To satisfy that requirement, I purchased 20rds of Hornady 123gr A-Max and a further 20rds of Hornady 140gr ELD Match. This would allow me to "kill a few birds with one stone" so to speak as it would allow me to verify the rifle as fully functioning system, to "rough" zero for safety, thereby avoid wasting ammunition and to run a barrel in with all its cleaning requirements.

As the Creedmore is a new cartridge, my load development required some initial research to ensure the rifle/ammunition combination was performing at its best. Chronographing the Hornady 140gr factory ammo produced 2710fps which when I entered the data into my QuickTARGET programme indicated sufficient velocity and adjustment in my scope to easily reach a 1000yds and beyond, therefore I had to reload to similar specs.

Thames Valley Guns

Armourers Report

Sabatti STR Mk2 Tactical Rifle

At the time of purchase the only available brass was Hornady with large rifle primer pockets. 139gr Lapau Scener bullets where the recommended brand but where in short supply, so Sierra 140gr Matchkings where the final choice based on their availability.



As this was a relatively new cartridge, load data was not available in the Vihtavuori reloading manual and therefore I had to access the data available on their website. Using N150, Vihtavuori recommend a maximum of 35.5grns which should generate 2602fps. However in practice it generated 2526fps as per my MagnetoSpeed chronograph, which was nearly 100fps slower than where I wanted to be.

I would never recommend exceeding the Vihtavuori reloading manual maximum limits, however different manuals recommend different maximum limits and Quick-LOAD recommended 39.5grns as the maximum. My first trip to the range generated velocities between 2477fps - 2751fps which was more in keeping with the velocities I required.

Settling for 38.5 grns of N150, producing 2680fps and the best standard deviation I reloaded a further fifty rounds and set of for the range for a second time. Shooting prone and from the bipod produced this 18mm group @100yds. You will notice that two groups of two rounds were touching, which was a common format throughout the morning's shoot and therefore I feel the rifle had potential to produce even better groups. I have since shot the rifle at 200yds and 600yds and regularly achieved V Bulls with the limiting factor being the shooter, however the one problem with shooting at these ranges I cannot record the group, which is disappointing.

Summary

I will be honest and say I rarely make statements such as the one I'm about to make. As an experienced Armourer, I



like to feel I am honest and I write as I find, I have no magazine, media outlet or manufacturer to appease and therefore I have praised and offered constructive criticism with equal professionalism.

The Sabatti STR is the first Italian rifle I have inspected and produced an Armourers report on since my Carcano 1891 restoration and therefore I have had no previous experience of the manufacturer or their products, however this is one of the best "Civilian Tactical" designs that I have experienced when buying a factory gun at this value "off the shelf". It's accuracy is very good, which is a good reflection of the barrels multi radial rifling, the quality of the Victrix stock is brilliant and the action cycles and functions without fault. Having said that, the two minor disappointments was the MDT magazine and the manual. The magazine issue was easily rectified with the use of an aftermarket design, but the manual only provides details of the action in a standard hunting rifle configuration and lacks any information about the stock.

On a purely personal note and in no way a reflection of the rifle, I don't like sand casted parts as I don't like the mottled finish it produces, instead preferring machined parts, albeit more expensive. Also for the first hundred rounds or so,

Thames Valley Guns

Armourers Report

Sabatti STR Mk2 Tactical Rifle

cycling the action appears slightly rough and it is only after a 100rds or so that the action smooth's itself in.

Its a bit early to go into any great detail concerning the multi radial rifling, however early observations are positive. I have a number of accurate and more expensive Sniper rifles, such as the SSG69, SSG08, Unique Alpine and the STR appears to be holding its own with similar group sizes as the more expensive rifles at 100 yards. However at this point, its to early comment, concerning more longer ranges.

Cleaning is a little different, deposits can be more easily seen than in a conventional barrel and are more easy to remove. I use a product called Napier rifle clean. I scrub the bore with a phosphor bronze brush and then rap a rifle clean patch around the same brush to remove any oil, deposits and carbon, repeating the process until the barrel is clean. However with the multi radial rifling, when applying the cleaning patch I find the rod becomes really tight and as a result, can bind. The reason is the bearing surface, the multi radial rifling has a greater surface area directly in contact with the brush and patch, hence the greater resistance. Therefore my solution is to utilise a 6mm brush.

This brings me to a point of interest and something I couldn't find in my manual. Good quality copper jacketed bullets have a soft lead core and therefore have a certain compression factor which allows this multi radial rifling concept to work as the bullet "squeezes" nicely down the bore and achieves good bullet obturation. However this raises the question about solid or monolithic bullets. Being solid they have fare less compression ability and therefore I personally would not be keen on using them - call me old fashioned. I have no evidence and I have not researched the subject but I did find a line from one of Sabatti's on-line manuals that states the following: *"Every test carried out testifies to the substantial improvement in ballistics performance and accuracy of multi-radial barrels over barrels with traditional rifling, with either traditional lead bullets in cal .308 and 6.5 mm (.264") or monolithic bullets"* which means Sabatti have done their research. In the future this may become more of a issue as environmental concerns bring pressure on all things lead related.

As mentioned earlier, another reason for purchasing the rifle was to gain more experience in learning about the 6.5mm Creedmoor cartridge. I have only gained a small amount of experience to date but like the venerable .308, the 6.5mm CM is a user friendly cartridge which is both very accurate, easy to reload and ideal for short action receivers. 6.5mm bullets in all weights and types, are readily available. In fact I am so impressed with this cartridge to date that I have had a spare .308 action, fitted with a heavy aftermarket 6.5mm Creedmoor barrel and target stock to see how much accuracy I can squeeze out of this cartridge.

In the UK, cartridge cases tend to limited to Hornady and Lapua, with the Lapua brass, that I have seen, using small primer pockets. As both my 6.5mm CM rifles have bolt heads suitable for large rifle primers, that makes the Lapua brass unsuitable.

To date my experience with this rifle has been an overall good one, a few niggly points but compared with other new rifles that have appeared on the market over the last few years, the STR has been a pleasure and I am keen to keep the rifle and explore its continuing potential.

Paul Green
Thames Valley Guns
www.thamesvalleyguns.co.uk
Email: paul.tvg@ntlworld.com

First published: 02 Dec 2017
Second update:
Third update: