

# Thames Valley Guns

## Mauser M48/52 Sniper Rifle

### Introduction

This is a supplement to my Armourers notes on the Yugoslavia M48 rifle. At the time I had restored a number of M48's and was also converting a number into a budget sniper rifles utilising replica German high mounts and German post war scopes.

At the same time this work was taking place, North Cape publications, published there book "Serbian & Yugoslav Mauser Rifles" by Branko Bogdanovic. As with all North Cape Publications, these are good books and very informative, making them ideal for the collector and Armourer alike. In the section on Sniper Rifles Bogdanovic describes Yugoslavia's first sniper rifle utilising a copy of the Russian PU scope. As I had a M48 in stock this was not going to be a difficult decision.



### General

Before starting a project like this you have to identify a suitable rifle and scope. The original Yugoslav Scope was the M52 and was a copy of the Russian PU scope and was manufactured by the TOS (Tovarna optičnih sredstev) or optical sights factory in Slovenia and in the main are unavailable in the UK. One did come up on Ebay but it was going for silly money which was three times more than the donor rifle was worth and as I learnt many a time, buying a vintage scope on Ebay can be fraught with dangers. Therefore as this was going to be a replica rifle, the scope and mount might as well be of the same ilk and I purchased a PU Scope and mount set from Accumount.

There are two versions of the rifle available in the UK, the M48 and the M48A, the principle difference is that the M48A has some parts that has been manufactured from press steel stampings to reduce costs and to speed up production. Because I was going to convert these rifles into sniper versions, I wanted the better quality rifle and therefore I would recommend only utilising the M48 version.

### Donor Rifle

The M48 is not a particularly sought after rifle and as a result there are a few around, should not be hard to source and are relatively inexpensive. A stock of rifles that were brought into the UK a couple of years ago but has now been exhausted and therefore some searching needs to be done. However the project rifle should fore fill the following basic requirements; barrel and bolt should be the best you can find and the rest of the rifle should be in good overall condition. Ideally the rifle should be accuracy tested first to ensure it capable of reasonable groups, however as I had a lot of work on when I built this rifle, I took a risk and bypassed this test.

### Scope and Mount

The scope was a replica PU scope that I obtained from Accumounts in the US. I had never experienced one of these scopes before but its general overall condition was good. Whilst the scope is based on the PU, the mechanism is of a modern design, the reticule is self centring, lenses are reasonable and the scope is nitrogen filled. The mount has been manufactured to a reasonable standard, with acceptable machining and decent blacking, however the reader must note that this mount is designed for the Nagant rifle and therefore must be adapted to fit the Mauser. One criticism that I do have with this mount is that the main screws had no recesses to allow the locking screws to engage which amounts to poor quality control and an extra cost for the buyer.



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### Preparation

I was fortunate that my rifle had a new barrel, the action was good and the wood was in a reasonable condition, however with the exception of the barrel the rifle had a heavy coating of preservation grease and required a complete stripe and degrease to remove the grease and to ascertain what was going on underneath and whether any repairs were required.

Fortuitously having completed that task, all was clear and it was evident this was a good rifle that required very little extra work other than the adaptations. As this was going to be a Sniper rifle, I intended to apply the same specification as the German K98 Mauser, the trigger required tuning, the action was going to be bedded, the woodwork required relieving and the mount had to be fitted.

### Receiver

Whilst visually the Yugoslavian PU mount appears visually very similar it is considerably shorter to accommodate the Mauser receiver. Therefore to adapt the Nagant mount, you must consider a number of issues. The large ring of the M48 receiver means the scope does not sit centrally with the bore and cannot sit square on the receiver. The shorter receiver effects eye relief and the longer Nagant style mount covers the thumb recess in the receiver. Lastly to align horizontally with the bore, the mount gets perilously closed to the recoil block in the stock.

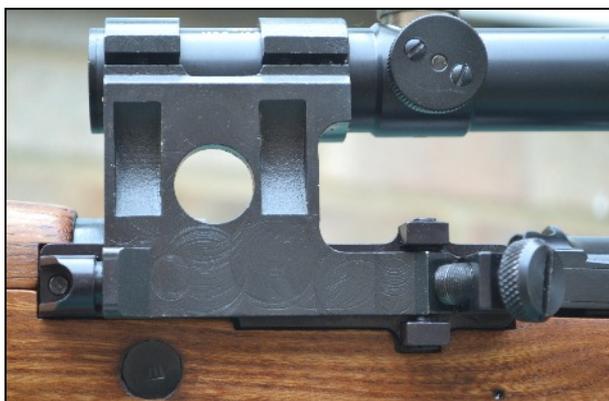
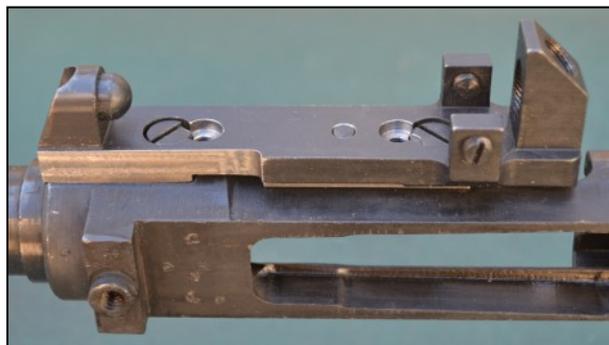
Therefore to overcome these issues the rear stud has to be relocated to the centre of the mount as shown in the top picture. A large shim is required to permit the mount to align with the bore and is locked in place by the relocated stud and the rear screw, see centre picture. The mount is then relieved as shown in the 3<sup>rd</sup> and 4<sup>th</sup> picture to maximise the amount of wood securing the recoil bolt.

As I mentioned previously, Accumount's suppliers had failed to relieve the main screws, so these will require milling in-situ and finally everything has to be re-blued. When fitting the mount, I secured the studs utilising Loctite 270 as I have no plans to remove them. Screws were fitted normally and relied on the locking screws to maintain their integrity. You may need to take the mount off from time to time to facilitate cleaning, so I would advise against loctiting them in place.

For alignment purposes, the front of the mount aligns with the front of the receiver ring, this allows for the correct eye relief and sufficient clearance for the bolt release catch.

### Caution!!!!

One word of caution, the front stud should seat into the ring no more than 4mm and the excess stud shortened. Fitting the stud to its full depth in my opinion weakens the ring and the chamber with potentially catastrophic results. The rear stud does not have the same pressure issues, however when machining the receiver the cutter should not pass all the way through the receiver wall as the stud will have no support.



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### Woodwork

The M48 stock utilise's Elm or beech and can be naturally very oily which is murder on abrasives and certain wood finishes will not cure, therefore you must apply a grain sealer to achieve a decent finish. Having said that the stocks I have restored so far have



restored really well and this stock was no exception. As this is to be a Sniper rifle bedding is a must as the metal to wood fit is not the best on these rifles. The barrel channel must be relieved to ensure no metal to wood contact between the bedding and the front barrel band which is a specification required of the K98K.



As with all side mounts, wood has to be removed to accommodate the base and this should be done after the bedding, therefore guaranteeing a consistent fit. As the reader may note in the 2<sup>nd</sup> picture, failure to remove metal from the underneath of the base results in more wood having to be removed from the stock, which in turn will result in a unsupported recoil bolt.



Wood should be removed from both the stock and the upper handguard and at no point should metal contact the wood. Failure to adhere to this guidance will result in a crack or fractured stock.

### Summary

Its fair to say that at the time I first published these notes, that this is an unusual rifle in the UK and may be the only one and therefore I am extremely proud of this project.

The finished rifle went to together well and was right "first time". Fitting the scope is a little trickery as both rings have to expanded



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slightly to allow the scope to fit. Do not force the scope as you will damage it. I secured the scope at its rear most position to give the best eye relief.

The height of the mount, permits sufficient clearance of the flag type safety catch and the use of the iron sights. One issue that I didn't have to confront is the scope and bolt handle clearance. For reasons unbeknown to me, the angle of the bolt handle varies from rifle to rifle with the M48. If it does interfere with the scope the only option is to heat up the bolt handle and increase the angle and thereby increase the scope bolt handle clearance.

Function testing revealed no issues, therefore a trip to the range was in order to facilitate the rifles first range test.

### Ranges Test

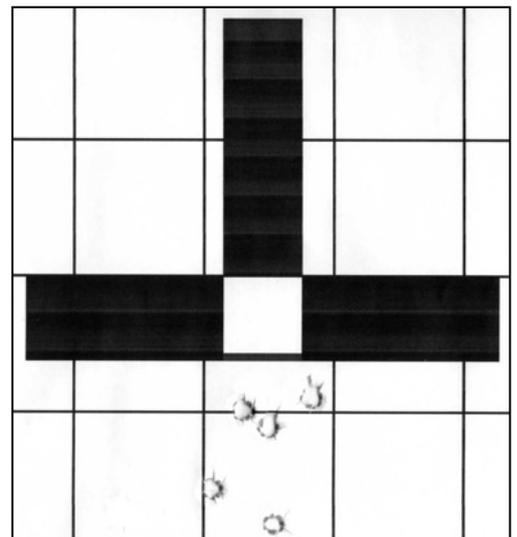
Whilst I was excited about the range test, there was some safety issues to had to overcome first. I was concerned about the front stud on the mount as the depth is critical, so therefore the rifle was fired remotely for the first ten rounds, followed by strip down and checked for any fractures or signs of weakness.

Once I was satisfied that the rifle was safe, I proceeded with the zeroing at 30yds followed by the accuracy test at 100yds. Grouping wasn't the best and started at around 4" which left me somewhat inflated, however as I continued, the group reduced to 3" and finally just below 2" at 47mm. Why this was happening I am unsure, the barrel was new and the maybe both the barrel and action may be settling in, which was indicated by the improving groups. Ammunition was Privi Partisan and is not the best and therefore some reloading may improve matters.

However the scope, mount and rifle performed flawlessly and although the rifle was not up to my nail tacking standards I was enjoying the shoot immensely and the rifle made for a pleasant days shoot.

The next step will be to crown the muzzle, finish of my current batch of factory ammo to assist in any "settling in", make-up and chronograph some reloads and then test the rifle again.

In my next update I will let you know how matters proceeded.



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