

## Replica PEM (VP) Scope

### Introduction

This is my second set of notes on products produced by the Red Star Mountain (RSM) Company in China and their replica scopes, in this particular case the Russian PEM (VP) Scope. I build replica Sniper rifles from the first and second world war and therefore I require good reliable replica scopes and have increasingly turned to RSM. The US has become increasingly difficult to source anything gun or scope wise. For example, sales are restricted to the US only as federal law will not permit anything to be exported outside the US with a value exceeding \$100.00 without an export license. To add further difficulty, for some obscure reason these replica vintage scopes are being classed as Military/tactical equipment, which further adds to the debacle.



As mentioned in my previous notes the world does not rotate around the US and market forces will adapt and other countries and their manufacturers are only keen to fill the void and the replica PEM scope is now available direct from the Red Star Mountain Co Ltd for a shade under \$400.00 plus shipping and will be on your door step with in a week to ten days which is a vast improvement over the US

postal service. RSM's website can be accessed using the following address: [www.ww2scope.com/default.htm](http://www.ww2scope.com/default.htm)

### PEM (VP) Scope

In 1932 the soviets introduce the PT model scope, similar to the image below. Reportedly manufactured in Germany, the PT was replaced by the soviet made VP or PEM model in 1936. Whilst very similar, the PEM's most obvious and visual difference was the lack of a rear focusing ring as can be seen in the image above.



The first thing you notice about this scope when you handle it, is that it feels very heavy, 2.97lbs, Its construction is all steel as a result it gives the impression of being sturdy and robust.

Build quality appears very good externally with no sharp edges, burrs or poorly fitted components. The steel tube is 1" diameter, with a machined exterior and has a chemical matt black finish with the hammer and sickle engraved on the ocular lens housing.



### The saddle

As with the rest of the scope the saddle is an all steel body, machined and ground to dimension with a good finish and no ugly tool marks. Saddle security on the tube is solid with no movement under hand pressure and fitting is good with no gaps to permit the ingress of moisture. Engraved on the saddle is the date "1939" on the left side of the saddle and serial number on the right.

### Elevation and windage drums

Elevation and windage drums are well made and have no sharp edges and are clearly engraved. Knurling on both drums is good and sufficient to provide reasonable grip when adjusting the drums. Neither drum has any detent action when rotated and therefore both drums are under identical tension which approximately 2lbs of pressure to rotate and prevents any accidental movement. When rotated, drums rotate smoothly and squarely with zero clearance between the saddle and the drum, therefore limiting the ingress of debris or moisture. This good fit also prevents damage should the drums receive an impact, thus reducing the risk of the shafts being bent.

# Thames Valley Guns

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### Elevation and windage drums - continued

Each drum has a reference point, so once zeroing has been achieved, the scale on both drums can be slipped by slackening the two screws situated on top of the drum.

The elevation drum is scaled from nought to thirteen with a progressive scale that increase in line with the range, making it fairly obvious to the user which way to turn the drum to increase the elevation. The windage is a consistent scale, ranging from nought to ten and with a plus and minus sign to indicate left or right. As this scope is a replica, it operates in the same manner as the original and therefore when rotating the drums, one moves the reticule. This can be a little disconcerting for the modern scope user who is accustomed to self centring reticules but it is also essential to ensure that the scope is mounted correctly otherwise



the user can find the reticule way over to the left or right with no further adjustment. I mention this because this can be offset by the mount. Whilst this is a fix, I feel it is unprofessional and therefore not the solution to a poor mounting job.

My only slight niggle at this point is with the drum screws themselves, using the correct sized screwdriver is essential if one is to prevent burring up the screws as screw quality is not great.

### Tube

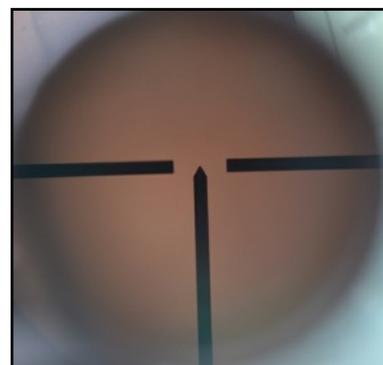
Overall the tube appears well manufactured, no burrs and blacking is good. Scope integrity appears nice and solid, however if you look closely at the front and rear sections of the tube, they have a slightly different finish. The rear section is smooth and the front has slight but consistent ringing generated by the tooling. Its not a big deal, it is cosmetic only and does not effect performance but it does reflect quality issues. Engraved on the ocular lens housing is a hammer and sickle



### Lenses & Reticule

Inspecting the object and ocular lenses, they appear clean, unscratched with no debris or dust on the internal surfaces. Looking through the object lens at the internal components shows no debris but there are some tooling marks on internal surfaces. Again this is a cosmetic and quality issue but does not effect the performance of the scope. Picture quality is good with no obvious distortion towards the edges and therefore the picture appears clear and crisp.

The object and ocular lenses are modern coated lenses unlike the original. Internal object lens size is 30mm with the outside tube diameter increasing this to 35mm. Ocular lens size is 31.58mm with the outside tube diameter increasing to 35.8mm. Reticule is a German No1 and is precise, clear with no dust or distortion.



To date I have not experienced any fogging due to harsh environmental conditions but as my testing has been limited to accuracy and function testing in temperate climates, I am not really put the scope to the test.

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### Mount assembly

I have called this unit the mount assembly as it consists of the front a rear rings, the saddle and the mounting bracket. The mount assembly is a solid and substantial affair that adds considerable weight to the rifle. Unlike the No32 Mount this bracket is better



made, with no burrs, square profile and matching interfaces. However fitting the mounting bracket requires a competent Gunsmith or Armourer as the bracket requires accurate alignment with the bore and correct fitting to the receiver to ensure the correct eye relief as the scope mount has very

little provision for eye relief adjustment. The bracket is secured to the receiver with screws, locking screws and pins with the stock being relieved to provide clearance for the scope mount. You can relieve the woodwork further to allow you to remove the scope and the saddle without removing the stock, but this is not something I have done.

The mount assembly does allow for course windage adjustment, the front ring can pivot on its mounting screw and the rear mount can be adjusted left and right by slackening off one screw and tightening the other. There is a scale as can be seen in the image above to give an indication of adjustment.

My own Nagant was fitted with a replica PT scope and therefore when it came to fitting the PEM, I simply removed the PT and saddle as one unit and with replaced it with the PEM assembly. To my surprise interchangeability was 100% therefore giving me the impression that the mount assembly was sourced from the same manufacturer.

### Instructions

Sadly no instructions are provided with the scope and this appears to be a common theme with all RSM products. I think this is shortcoming if the company wish to portray a more professional image.

### Fittings

As the screws and pins for securing the bracket to the receiver are fairly specialised, RSM provide the screws, locking screws, pins, drill and tap. This is very helpful as sourcing separately would introduce a host of problems.

### Pre Range Setup

Having set up the PEM scope and prior to going to the range, I did compare the PEM to the replica PT that I replaced it with. The PT had a better external finish with a ground surface on the tubes exterior and the drums had a positive detent, which in comparison to the PEM lacked the drum detent, the PEM had noticeable tooling marks on the tube, yet offered more adjustment for eye relief and provided a more powerful magnification which provided larger looking reticule. However one should not criticise the lack of detent as this is technically correct and in keeping with the original scope.

My shooting position was better with the PEM as I did not have to lean so much into the scope to compensate for eye relief and the sight picture was definitely superior.

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### Summary

I had recently been doing some load development for my Nagant Sniper and had loaded up fifty rounds in preparation. Therefore this was an ideal opportunity to fit the PEM and put it through it paces a little bit. Recoil would increase as I worked my way up to maximum load and 50rds of constant firing would put the scope under typical shooting strains. Weather conditions were mild for



a UK February, typically around 4°C and believe or not, it wasn't raining with the lightest of wind.

Using my lightest rounds I started to zero the rifle, elevation is clearly identified on the drums and therefore the correct elevation was quickly obtained. Windage is a little more tricky as left and right movement is not identified as on modern scopes. One way to remember is that moving the reticule to the right will move your muzzle to the left and visa-versa, bit like adjusting a foresight blade. As there is no detent action on the drums you must make note of the drum scale for accurate adjustment.

I must stress my comments are not criticisms this is exactly as the scope should be and as I continued to shoot this scope performed very well. Picture quality was good and slightly better than the replica scope that I had replaced it with. Mount integrity was maintained throughout the shoot regardless of the increased recoil.

I must admit it is hard to find fault with this scope, if I had one minor niggle, it would be to suggest to RSM that they obtain the same external finish on both tube sections.

Having completed the fifty rounds there was no sign of any movement, loose components or lenses etc and the drums retained their position. As replica scopes go this is one of the best I have tested to date and it is my intention to retain this scope for use on my Nagant Sniper.