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Accuracy Problems? Check scope mounts first!

Over the course of many years of mounting and sighting-in scopes, and diagnosing accuracy issues with both custom and factory rifles – I have found that most “scope problems” are due to either inferior or problematic ring/base combinations or improper mounting technique.

One of the most common types of rings/bases has a windage screw rear base. I often see weak or loose rear windage screws on the base. These tend to become loose or work loose because of vibration or recoil. Some of these windage screws are made of soft metal and essentially stretch under recoil. A good replacement option for this is a dual dovetail – both front and rear. These will work great as long as the rings are properly aligned with each other when turned into the base. The disadvantage of the dual dovetail is adjustment. Maybe a receiver hole is out of alignment or a scope that has limited adjustment - I’ve seen where the scope runs out of adjustment before reaching a sighted-in zero when using dual dovetail.

On mounting technique problems – improper length of the base screws. Sometimes the furnished screws are not the correct length. If the front screw on the front base is too long it will bottomed out in the receiver threads – and therefore not hold the base securely to the receiver. The other re-occurring problem on screw length is too short of a screw on the rear base. Then there is not enough thread engagement into the rear receiver bridge and again not secure and resulting in loose screws or stripped threads. Use 6x48 screws in the correct length and everything will work fine. Drilling and tapping the

receiver and the bases to an oversized 8x40 should be considered when using a very heavy scope on a heavy recoiling rifle.

I like to use removable Loctite (blue) #248 on the base screws only (screws holding base to the receiver). I do not recommend using any type of thread locker on the ring cap screws. Definitely don't use red Loctite on any screws – you will have to use heat to remove the screws and can result in damage to your scope and/or rifle metal finish.

Another point is: over tightening of the ring cap screws (screws holding the top of the ring to the bottom half of the ring). If they are over tightened – they can deform the scope tube – especially 1" tubes – resulting in erratic movement of the erector system. If slippage of the scope tube in the rings is a problem – then rosin should be used between the ring and the scope tube. I set these screws at 25 inch pounds on the base screws on steel receivers and 18 inch pounds for the ring cap screws. It is very easy to over tighten these screws with the new type Torx head screws. In tightening – use common sense – they need to be snug but not "cheater bar" tight.