

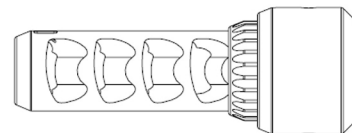
WITHOUT WARNING

How to use your tuner.

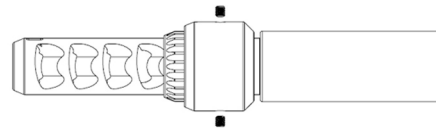
Tuners might seem complicated but they are really just simple tools. Like all tools, how you use it depends on the tool's ability to do the task you're trying to perform. Don't overthink your tuner and its results and you'll benefit greatly from the improved precision you otherwise couldn't access before, and the confidence that comes with knowing that if you encounter seating depth limitations, a bullet you can't get to shoot or you travel somewhere else in the world for a competition, class or hunt and your groups open up, you have the ability to quickly adjust the tuner to tighten your groups up again.

Here's how to assemble and use the device:

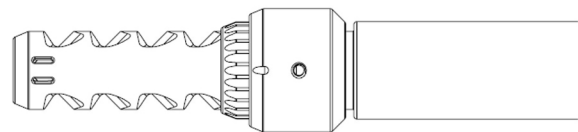
(1) Thread your locking collar clockwise onto your muzzle brake all the way until it bottoms out. Then thread your tuner clockwise onto your locking collar all the way until it bottoms out, then counter clockwise until the witness mark on the tuner lines up with the closest adjustment mark on the locking collar. This will be your default adjustment setting of the tuner. Assembled it should look like this.



(2) Next screw in each of your 8-32 set screws into the tuner until they bottom out (two in total), then give them an extra 1/8-1/4 turn. (Never overtighten set screws to when they begin to strip.)



(3) Next thread the entire assembly onto your muzzle threads until it bottoms out. Then thread the device via the muzzle brake backwards until the horizontal gas ports are level. Then holding the muzzle brake and using your locking collar wrench in the other hand, turn the wrench counter clockwise until the locking collar contacts the shoulder of the muzzle and **torque it to 25 ft-lbs** against the shoulder. This will be tight enough that turning the tuner or hitting the tmb on objects won't work the device loose. (We do not recommend installing muzzle brakes hand tight because they come loose and ruin matches and hunts.)



(4) To adjust your barrel tuner; shoot a three to five round control group with the tuner on the default setting (turn clockwise until it bottoms out, then counter clockwise until the witness mark on the tuner lines up with the closest adjustment mark on the locking collar and lock in place). Then starting in increments of one, turn the tuner counter clockwise one adjustment mark, lock it down again and shoot two rounds.

If the two rounds are touching, shoot a third, if the fourth round is touching, then shoot a fifth.

Do not break your position between shots. Demonstrate good follow through, proper shooting technique and good trigger presses. (Shooting groups with a bad or unstable position/in poor shooting conditions is: mirage will just waste ammo, annoy you and you will achieve nothing.)

If at any point you get a flier, stop shooting and go to the next adjustment mark on the locking collar. This will ensure you save ammo, time and barrel life when finding the ideal setting for your barrel.

When you find a group you're satisfied with, return the tuner to its original default setting and shoot another three to five round control group again, then head back to the ideal setting you discovered and shoot a three to five round group to compare against the default setting. If you see continued improvement, then you have successfully tuned the barrel harmonics to the load.

If your fundamentals are solid and rifle is in good condition, your results should be repeatable and you should be able to end up with consistent 1/4 inch five shot groups. If at any point you cannot achieve this, trouble shoot your rifle, ammo or shooting technique. We have never not been able to make a load shoot with our tuner.

Depending on what point during load development you decide to use the tuner is up to you.

They all work and all produce results you'll be happy with but with all aspects of load development, many different users use different techniques and take different paths to arrive at the same place. How you decide to use your tuner is up to you.

We have seen it successfully used to tune barrels to factory ammo and other pre-made ammo not specifically developed for the user's barrel. We have seen the tuner used instead of seating depth adjustments. ie: seating a projectile 20 thou off the lands and simply dialling precision in with the tuner and we have seen users do traditional load development from start to finish and then use the tuner at the end to dial in the last remaining bit of precision out of a load. This works with the tuner on and off the rifle for the load development.

We personally use the tuner to dial in the last remaining bit of precision from a load after doing a full traditional load work up and then use the tuner to keep the barrel and ammo in tune during the course of the barrel's life without making adjustments to the ammo as the barrel wears out.

For more details info on how to use your tuner check out video series on our youtube channel or send me an email at bj@withoutwarning.com.au.