

TUNING THE RIFLE

INTRODUCTION:- To perform at its best, a rifle must be tuned. Any piece of tubular steel will vibrate at a set frequency when bumped, or, in our case have a shot fired through it. The frequency of the barrel will depend on the shape and length of the barrel as well as the diameter, which, of course, we have no control over. To achieve our desired small group size, we need our bullets to exit the barrel at the optimum point in its vibration pattern.

There are basically two methods of achieving this:- One is to change the exit timing, and the other is to change the frequency of the vibration.

EXIT TIMING:- Changing the muzzle velocity will achieve this. Depending on the calibre you are using, start with a **very** conservative load and gradually work up until you achieve the desired result. Changing the seating depth will give you the same result. Start with the bullets seated almost touching the lands and shoot a group. Then you push the pills a few thousandths of an inch further into the case and fire a group. You will eventually find a seating depth that will give the desired result.

BARREL TUNING:- This method works by changing the basic vibration frequency of the barrel. This requires the fitting of a "barrel tuner". The outer section is threaded and can be moved backwards or forwards. By moving by small increments, you will eventually find a "sweet spot". You can achieve a similar result by changing the weight of the tuner.

This is my preferred method as it allows changes to be made when you are away at a competition. When you buy a new batch of powder, it may have a slightly different burning rate and there is no need to go back to "exit timing". I've personally been doing this for 25 years, so, trust me, it works!

Greg Warrian.