

August 2007

I recently purchased a new Trap Gun and it has a stock called a "Monte Carlo" on it which sits very low on my shoulder pocket. It also recoils a little harder than what I am used to and it seems to kick upwards especially when I am using heavier shot shells.

I read one of your previous articles and checked the "pitch" dimension and it was identical to my old gun which seemed to fit fine. I don't think this stock suits me so I am wondering if I should get a conventional straight stock built for myself? Also where did the term Monte Carlo come from in stock making terms?

Brian Oswald, North Adelaide, S.A

The term Monte Carlo describes a stock that has the comb sitting anywhere from 5mm up to 50mm above the heel of the gun. There is no set measurement for this type of stock as they are often custom built for people that generally have rather long necks so it makes for an easier gun mount without having to stretch their head too far forward.

As the name suggests these stocks originated from Monte Carlo in the days over a century ago when competition live pigeon shooting was its peak. When the pigeons were released from their trap (yes this is the origin of the name "Trapshooting") they would often fly straight up as they made their bid for freedom. Somebody decided that a higher comb and thus a higher shooting gun would actually be an advantage.

There are many reasons why this gun may kick you more than your previous shotgun. It is impossible for me to give you a definitive answer without seeing both guns and knowing your body shape, but I will try using basic principles. First of all let's look at the fundamental components of actual recoil. These are the 1. the weight of the gun; 2. the weight of the shot charge and finally 3. the speed that the shot charge is propelled out of the gun. I will assume that you have not changed ammunition between guns so this would eliminate two of the three variables immediately. The weight of the gun could be the starting point. Let me give you two examples. I will assume you are using a 32 gram 3 dram equivalent shot shell which would give a estimated velocity of 365 metres per second (1200 f.p.s) as it leaves the barrel. If your previous gun weighed 3.2 kg (7lbs) it would give a recoil velocity of 4.9 metres per second. A gun that weighs 4.1 kg (9 lbs) gives a recoil velocity of 3.6 metres per second. You are actually getting "kicked" twenty five percent less when you shoot a gun that is less than 1 kg heavier. These figures are calculated on *actual* recoil, but the perception of recoil or *felt* recoil is a different matter.

Lets now assume both your old gun and new gun are exactly the same weight so we know that the actual recoil can be no different. Lets also assume that there are no other variables such as forcing cones, back boring, porting, recoil reducing devices etc as we haven't the space in this column to argue those points.

One of the major contributors to felt recoil as you have described it is a measurement called "Drop at Heel". This is measured by a line which is drawn parallel with the barrels over the top of your stock. When the line is above the very end of your stock (heel) measure it at right angles down till it touches the top of your recoil pad. A typical measurement can vary anywhere from 40mm to 90 mm. The greater the drop

at heel measurement is the more felt recoil is observed due to the fact that recoil, once it has been absorbed by your shoulder going backwards (the first stage of recoil), will then start to push upwards (the second stage of recoil). The greater the distance that this point (drop at heel) is below the centre of gravity of your gun (usually located very near to where the mechanism of the shotgun hinges to the barrel) the greater the gun will have a tendency to recoil upward. This is the reason why Monte Carlo stocks are built with a parallel comb to the barrel thus keeping the amount of drop at heel to a minimum. However if the cut in the stock between where the comb ends and where the wood slopes down to the top of the pad is extreme, say 50 mm or more, you can have a recoil condition develop exactly as you have described. The gun will sit far too low on your shoulder and no matter what you do, because the drop is far below the centre of gravity, the gun has no option except to recoil up.

Brian if this sounds like you then the answer is yes, get a conventional straight stock built for your Trap Gun.

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