

GUN FIT

Visiting a master in the art of gun fit is always a good idea. Most gunsmiths have try guns and tend to offer a gun fitting service. They can also make the necessary adjustments to your gun once the fitting has taken place so if you are planning on having your gun altered to improve the fit or are looking to have a gun made to your specifications, this would be the recommended approach.

This guide is intended to help you in one or more of the following ways:

- Quickly check the fit of your own gun at home to help you identify the most obvious fit issues
- Help you decide whether a gun you're looking to buy is likely to need major alterations in order for it to fit you correctly
- Improve your understanding of gun fit as a concept

Why is Gun Fit Important?

If you have figured out your dominant eye and have settled with a method to work with it and practised your mount so that you're consistently mounting to the correct place each time then the final thing you need in order to shoot where you look is a well fitted gun. It's this simple, if your gun doesn't fit then you won't shoot straight. When shooting at a target 35 to 40 yds away, 1/4" out on/off the cast means the shot ending up around 6ft away from where you intended it to go. Enough said!

Gun Fitting Terminology

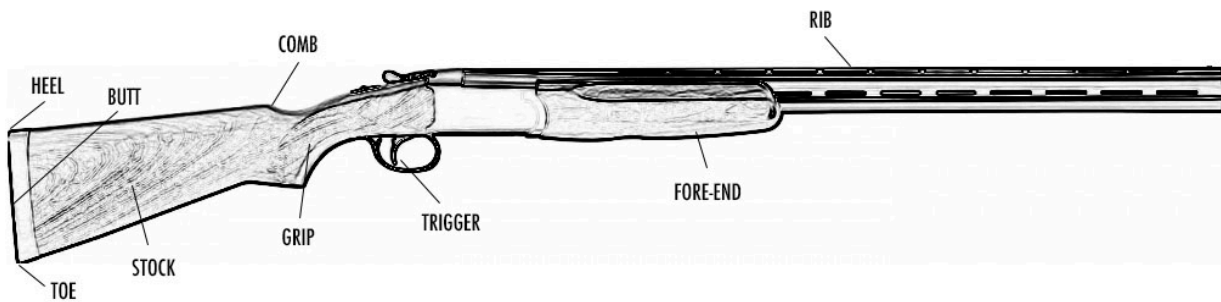
If cast, drop, pitch, length, comb, toe, rib and heel all make you scratch your head and want to run a mile, wait! Read on and all will become clear...

Firstly, it will help if we break the above into two distinct categories.

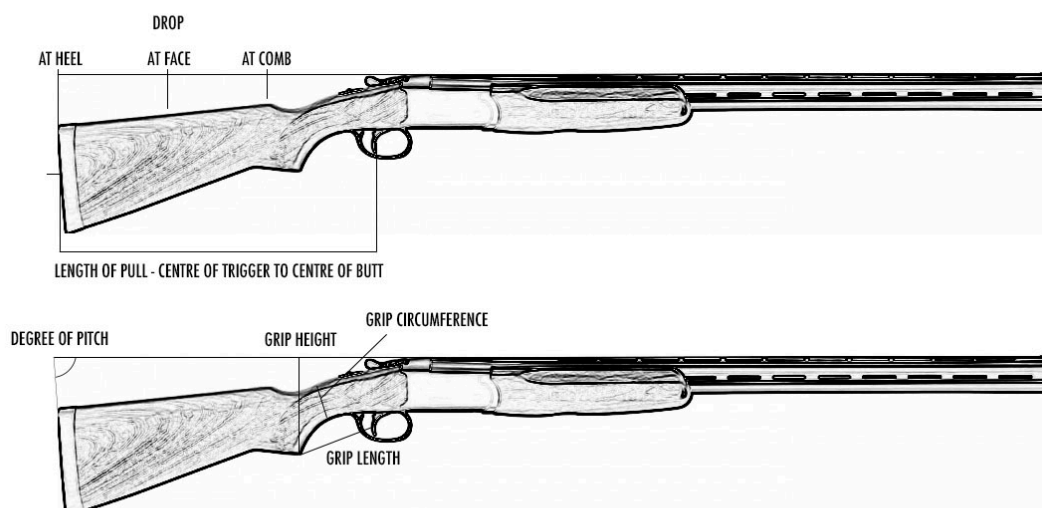
1. The physical parts of the shotgun which are important to gun fit
2. The measurements between those parts

The diagrams below will help you to understand the anatomy of a shotgun and the measurements we need in the context of gun fit. Below the images, each measurement is explained.

Physical Parts of the Shotgun



Measurements Between Parts



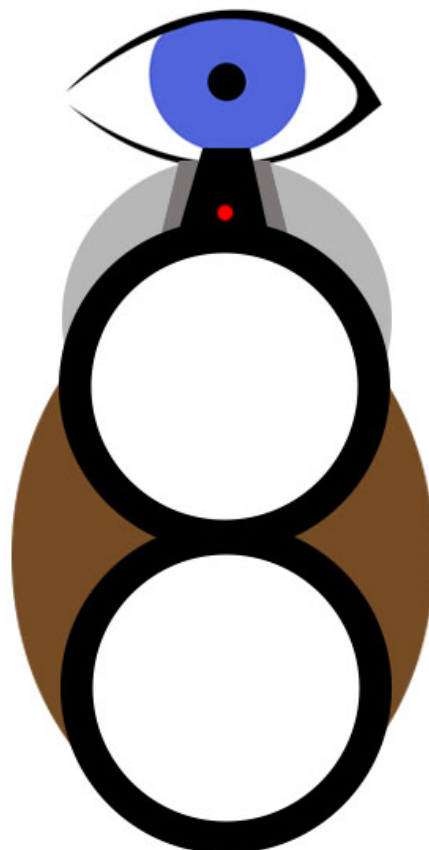
CAST

Drop

Drop is the measurement that will determine whether your shot pattern lands higher or lower than desired. A stock that is too high can cause you to shoot high and a stock that is set too low can cause you to shoot low. With a low stock, you can also experience inconsistent high and low shooting because of the need to raise the head – when the drop is excessive, your eye will see the top lever which will put you off the target with a natural reaction being to lift the head for a clearer view of what you're looking to shoot.

Drop is measured in three places – at the face, at the comb and at the heel although the latter two are the most common. See the diagram above for a visual of where the points are on the gun. Also note the degree of pitch on the diagram, this is a measurement of the angle between the line of the butt and the line of the rib.

A typical drop on an over an under shotgun is around 35mm at comb and 54mm at heel. You can go to the trouble of measuring your own gun's drop or you can simply mount your gun in front of a mirror (of course it should be proven empty and safe first) and look at where your master eye sits in relation to the rib. The iris should sit central and directly on top of it, like this:



If you see any of the below, the drop on your gun is either too much or too little.



If your eye sits too high in relation to the rib, seek advice from a good gunsmith as alterations to the stock may be needed. Fortunately, if it's sitting too low, there are comb raising kits on the market that do a good job. An example of this is the Beartooth comb raising kit. It's a neoprene sock that fits over the stock and comes with a number of foam pads in different thicknesses that effectively raises the height of your comb to your liking. The good thing about a solution like this is that it's a cost effective way of testing it out to see if it improves your shooting without making permanent alterations to your gun.

Cast

Whereas the drop of the gun is responsible for the shot pattern landing higher or lower, the cast takes care of the right or left movement of the pattern.

The cast of the stock is simply the measurement between the central line of the gun and the central line of the stock's butt. Cast can be applied in either direction

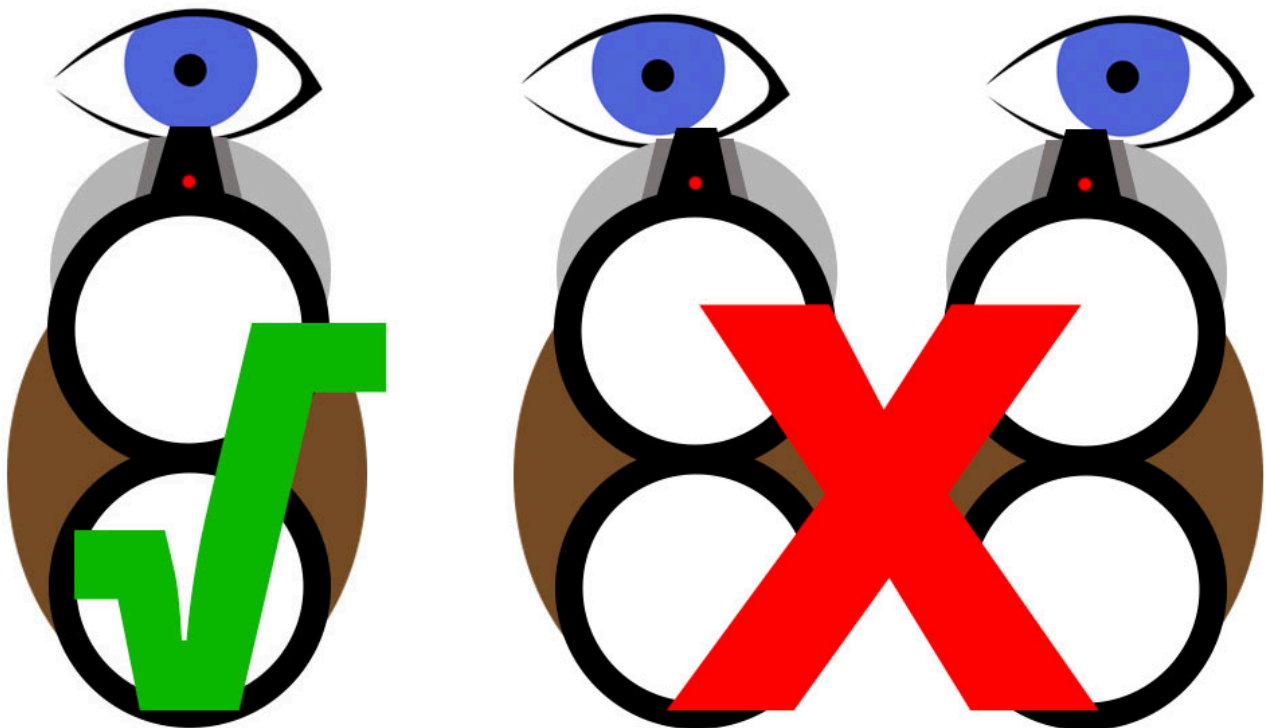
and is referred to as 'cast on' when the butt ends up being left of the gun's central line and 'cast off' when the butt ends up being to the right of it.

The aim of cast is to ensure that when the gun is mounted in the correct position, the eye sits centrally over the rib without the need to roll the head in order to put it there.

The amount of cast required will depend on your body and head shape and it's common for cast to be measured at both heel and toe (typically around 3mm at heel and 5mm at toe) because of the natural shape of the body. Take a look at your shoulder pocket, the position on your body where the butt sits when you mount the gun – the chest is bigger than the shoulder so the toe end of the stock generally benefits from more cast in relation to the heel end.

To check for cast issues, get back in front of the mirror (again with a proven empty and safe gun) and see if your eye sits centrally on the rib of the gun (without having to roll your head).

The image below shows the correct position plus two wrong positions.



Length

Length or the shotgun length of pull is the measurement between the centre of the trigger and the centre of the butt. Typically, this will range anywhere from 14 1/4" to 15 1/2" for a gun designed to be used by an adult.

A sign that the length is too long is if when mounting the gun, you aren't able to mount the gun into the shoulder pocket but instead it ends up being mounted on the end of your arm.

Another check is to hold the gun by the grip with your bicep by your side but forearm and hand at 90 degrees (as shown in the image below) – if the butt just touches the bottom of your bicep, the length isn't likely to be too far away from where it needs to be. If it doesn't touch the bottom of the bicep, it may be too short for you and if it's too long then it will be immediately obvious. It's worth noting that this is only a quick check and should be used as a rough guide only.



If the stock length is too short, you're likely to feel more recoil and have less control when handling the gun.

When it comes to temporary solutions for remedying a short stock, a slip on recoil pad can be helpful and some come with different sized foam inserts which allow you to extend the stock by different lengths. Of course, if the stock is far too short then a pad like this may not be adequate and having a gunsmith add a piece of wood onto the stock might be your only option. If a recoil pad can get you the extra length you need then a smarter looking and more permanent

option to a slip on recoil pad is a fitted recoil pad. These are generally inexpensive and can normally be turned around quite quickly by your gunsmith.

If the stock is too long then it will likely need shortening but as recommended at the beginning of this article, get your gunsmith check the fit first before making permanent changes to your gun – once a piece has been taken off, that's it!

Grip

When it comes to gunfit, grip is probably the least widely talked about. It is important though as a grip that suits your hand allows for a more consistent gun mount and more control of the gun.

As shown in the diagram above, there are three main measurements of grip.

1. Grip height
2. Grip length
3. Grip circumference

The shape of the grip is also important.

To make sure the grip 'fits' you, the first and most obvious check is a pure ergonomic one – does the grip feel comfortable and do you have the control you need when experiencing recoil? The second check is to mount the gun and look at your wrist, is it excessively cocked? If so, it could be a sign that the shape isn't ideal. An alteration to the shape of the grip maybe needed so again, go and visit a gunsmith for a second opinion and discuss your options before committing to making permanent alterations to your gun.

So there you go – the four key measurements explained. If you're still confused, don't worry – the bonus material should bring it all together and make it super simple to perform the checks at home.

The Proof is in the Pattern

Most shooting grounds have a pattern plate which you can ask to use. The purpose of a pattern plate is to allow you to shoot at it from certain distances with different cartridges to see how it impacts your shot pattern.



One other use of a pattern plate is to aim at the centre and see whether your pattern is high, low, left or right of where you think it should be. Where possible, try to make temporary alterations to your gun and make the use of a pattern plate to make sure the solution is doing the job you intended.



Summary

Hopefully you now have more of an understanding about gun fit and how/why the different measurements are used and taken.

There is no substitute for spending some time with a seasoned gun fitting pro and as mentioned a number of times in this article you should absolutely do this before having any alteration work carried out on your gun. If you have been wondering how well your gun fits you though, hopefully you will now have the knowledge to do some of your own basic checks at home.

