

## Guides to make your own grip

The basics of pistol shooting are sights and trigger. Each of these basics has many subcategories. One of the subcategories of sights is grip. This article shows what to look for in a proper grip fit. Most people think that when they first get possession of a pistol they should start hacking on the grip. A good fitting grip will get some points but not as many as intense, long term, practice focusing on sharp sights and having a smooth trigger. It is a good idea to develop trigger and sights way before the refinement in grip is made, if for no other reason than more points can be gained through sights and trigger than an exact fitting grip. If you are shooting a modern, high quality, air pistol i.e. Steyr, Morini, Hammerli, Anshutz, Fienwerkbau etc. then the grips already come with the basic lines so very little work, if any, is needed as long as the proper size grip was bought with the pistol (meaning a medium grip for a medium hand or a small grip for a small hand). Some people are looking for the golden wand to touch their pistol, to make them shoot 600. The golden wand being in the form of a fit grip. A perfect fitting grip will not give a 600 if no effort was given to develop sharp sights and smooth trigger. So, the first thing as a beginning shooter is leave the grip alone. The bad shots are more than likely coming from poor sight and trigger execution than from a bad grip. Good scores can be shot with a bad grip and good sights and trigger. You will never shoot good scores with a perfect grip and bad sights and trigger.

If you have spent at the least several months on the basics and you are at the level to benefit from a proper fitting grip, then there are several options that you have available to you. The best way is to go to a professional grip maker and have one made for you. The cost is probably the greatest prohibitor of most people buying these grips. These grips are good, but keep in mind that the way you hold the pistol at the place it is being built might not be the way you hold it when you get home. Many people have gotten custom grips built only to find out they feel like they belong to someone else when they get home. One of the main reasons for this is that your hand swells and contracts daily making it impossible to have a perfect grip every single day. There will always be a small change in the feel. Keep in mind that a grip is never perfect except for the day it is fit and any other day with those same conditions. So build your grip with an allowance for expansion and contraction. This allowance may be 2-3 millimeters.

The second way to get a grip to fit is to buy a pistol with an ergonomic grip on it or to buy a replacement ergonomic grip for the pistol that has already been hacked on. Then, have someone with knowledge about fitting grips help fit the grip. The biggest problem is finding someone with the knowledge and talent to do a proper job.

The last and most probable way to fit a grip is to fit it yourself. This is the most feasible way for most shooters because of cost, time, and knowledge. If you can't find a knowledgeable grip person then you are just as qualified to mess up your grip as the guy at the local range who thinks he knows it all. The do-it-yourself option is what is going to be looked at in this article. The idea is to help give some guidelines to look for when fitting your own grip. Every grip maker is different. A Vitarbo looks different than a Morini, and both of those look different than a Hoffman, but the basic lines are the same and crucial. These ideas are based on experience, looking, shooting, and using different grips. Grip making is more of an art than a science, but with the suggestions given you will be close. There is not a set of rules that you have to follow and every grip is different, but there are rules that are the same for every grip. Free, Air, Rapid fire, Center fire, Standard and Sport have the same lines even though the grips are different from each other. Some of the terms used might not be the same as what you use, but keep an open mind because there is not a set name for some of these aspects and every manufacturer uses different names.

The purpose of an ergonomic grip is to get as much surface area of your hand touching the grip so there are no pockets that do not touch the hand. This surface area tension is what creates friction with the grip so you can have a firm grip without the grip strength. Ergonomic grips will not have to be held as hard as traditional pistol grips (for example a Ruger Mark II). To fit a grip, the only tools that are needed are a form of putty (Bondo, Morini grip putty, A+B, quick steel) and a dremel with a sanding head. Try to start with a grip that has lines very close to the lines on your hand because you are not a professional grip maker. You are just adjusting existing lines instead of making a grip. Making a grip from scratch is extremely hard and can only be done by very talented and experienced craftsmen. When grabbing the grip, keep in mind that you are changing it. Every cut and addition will change the feel, it is important to grab the grip the same every time. A good way to do this is to make the pistol safe. Grab the grip around the barrel with the nonfiring hand. Then, enter the grip from the rear setting the web of the thumb and forefinger. Set the bottom of the hand on the shelf. Set the ball of the grip (if you make your hand into a cup, the deepest part

of the cup is where the ball would fit). Next, the ridge between the palm and fingers, then the fingers in the grooves. Finally, the finger on the trigger. The force of the grip needs to be front to rear to eliminate wild shots and help with natural point of aim. To get this force, the middle segment of the fingers needs to be directly under the trigger guard and the web of the thumb and forefinger under the rear sight. This is the order to follow in fitting a grip. Keep in mind that free pistol is the only grip that does not have rules limiting how much you can add to your grip. With every adjustment, make sure the grip still conforms to ISSF rules.

#### 1. Adjust Grip Angle.

Do you prefer a grip straight up and down or a rake to the rear? This needs to be decided before any cutting or adding is done. A FAS has a large rake. A Walther has a more straight up and down grip. Many pistols can have their grip angle adjusted.

#### 2. Adjust Grip Alignment.

The recommended way for a hand to align in the grip is to have your forearm be the base of a Y, your thumb form one side of the Y and your fingers form the other side of the Y. This allows the barrel axis to be straight back down the line of your arm to help make the pistol become an extension of your arm. All recoil will be absorbed in to the body instead of creating muzzle flip. Some people, due to length of fingers, wrist problems, or prior habits, make their grip more of a straight line with the forearm and palm, with the thumb coming out of that line at a 45 degree angle. The first way is the best. The second way will work, but the grip is more difficult to fit.

#### 3. Setting Thumb/Forefinger Web.

It is best to get your hand as far into and as high as you can in the grip. It would be optimal to glue the rear sight directly on top of the back of the hand. The barrel axis is better the lower it is in your hand because then the recoil is more straight back and absorbed into the whole body instead of the wrist taking most of the recoil making you lose sight alignment. You want the hand as far into the pistol so the explosion of the round does not have as much leverage to give muzzle jump.

#### 4. Adjust the shelf.

The shelf needs to be snug, but not tight (room for expansion). The decision now is if do you want a fixed shelf or a movable shelf. Fixed shelves are good for non wrap around grips because the expansion of the hand can come outward. A free pistol with a wrap around grip can give room for expansion with an adjustable grip. A nonadjustable grip is easier to fill more gaps to increase surface contact. To fix the grip, you can drill holes through the shelf into the main grip and pin it using a piece of coat hanger and epoxy or similar materials. Then, simply tighten the shelf screws very tightly so the shelf will never move. This is done so a lose shelf does not crack the filler after the grip is complete.

#### 5. Adjust the Thumb groove.

The thumb should sit easily all of the way along the thumb groove. There should not be a lot of pressure from the thumb because this will give you left to right shots. The thing to look for is comfort of letting your thumb sit comfortably along the shelf. Whether your thumb points up or down is up to the individual. The more your thumb points outward, the more tendency you will have to grip with the thumb giving left or right shots.

#### 6. Adjust the Ball.

The deepest part of your palm is where your ball of the grip should be placed. This might take a little trial and error. A good way to know which way to move the ball is to shoot at least forty shots without taking your hand out of the grip. When you take your hand out there should be a red spot where the ball was. Adjust the ball up, down, front, or back depending on where the deepest part of your palm is and where the red mark is. The ball is an important part of getting your hand in the exact same spot every time. If you put the ball in the deepest part of your palm every time you take the grip, then you have a constant and will have a more consistent grip. You do not want to make the ball stick out more than what was there when you started because the pressure is from front to rear. A large ball will have the same effect that having your thumb sticking out will have i.e. left to right shots.

#### 7. Adjust the palm.

Everyone has a line on their palm from the deepest part of their palm to the wrist. To adjust this line is a simple matter of filling in this line or crease as it is formed in the grip. Along with filling in this line is filling in any pockets created between this ridge from the ball to the rear of the grip. A good rule of thumb is if you feel a pocket, there is one. If you can't feel anything like a pocket or loss of surface contact, then

there is not a pocket. There is almost always a pocket where the shelf meets the grip. This can be filled if you have a fixed shelf.

#### 8. Make palm/finger ridge line.

This ridge is where the fingers meet the palm of the hand. This ridge and the ball of the grip are the two greatest indexes of your grip to ensure consistent hand placement. This ridge should be pronounced enough that you can feel it, but not so great that it causes left or right shots. This ridge should go all the way from the shelf between the fore finger and middle finger to the shelf of the grip. To help make this ridge more pronounced (other than adding filler) is to take out material between this ridge and the ball all the way along the ridge. Everyone has a meaty portion between the line where the fingers join the palm and the line going across your palm from the thumb side to the little finger side. This meaty portion bunches up when you curve your hand to make a fist and needs room to fit between the ball and the finger/palm ridge. The fatter the hand, the deeper this should be. Full contact should be maintained all the way down this ridge line.

#### 9. Fitting the fingers.

There are two main schools of thought when it comes to finger grooves. The two ideas center around how much detail should be given to the finger grooves. One idea is to have a ridge between each finger and a separate ridge (these finger ridges are much shallower than the finger/palm ridge) for every crease in the finger. This will give you a more exact grip every time because if your finger is not on a ridge, which you can easily feel, then you have a consistent grip. The second idea is to not have any ridges at all. Make the finger area curve in the right spot to let that portion of the fingers be in the correct area. This idea is better if your hand swells and contracts a lot. As your hand swells or contracts, your fingers will fit the ridges differently. The second idea eliminates this because there are no ridges at all. Both ideas are used equally as often and have their own merits. When fitting the fingers, the main thing you are trying to do is make sure the middle segment of the middle and ring fingers are directly under the trigger guard and perpendicular to the barrel. This is crucial in making sure you are applying pressure straight back on the grip. The pinky finger can hardly ever be fitted this way. In order to put the pinky finger in the correct place, you have to remove so much material that you can cut a hole in the grip or grind into the magazine well. Once the middle digit of the middle and ring fingers is set correctly, the rest of the finger grooves can be placed between the fingers. An easy way to do this is to grip the pistol and make a mark between your fingers with a pencil. It is not important for the fingers to sit on the shelf. If you want to fill this in for comfort, that is fine. Make sure you leave room for expansion and contraction of your fingers. There will be 3 times more expansion in the fingers than in the palm, therefore, more room is needed in the fingers. The last part of fitting the fingers is making the shelf over the middle finger wide enough to comfortably hold the weight of the pistol. When holding your pistol, the barrel pulls down putting most of the pressure down on your middle finger and up on the rear portion of the shelf. Do not make this part of the middle finger shelf too thick because it will interfere with the web between the middle and fore fingers.

#### 10. Trigger placement.

After the rest of the grip is fit, the trigger finger is fit. It will be the last major fitting of the grip. The area under the trigger finger should be opened up to allow free movement of the trigger. If you are dragging wood while you are squeezing the trigger, then the pistol is moving during the execution of the shot. This is obviously undesirable. The end segment of the forefinger should be fitted to pull directly back on the trigger. This can be adjusted on the trigger shoe area. The idea is to have the end segment of the fore finger be perpendicular to the barrel. This will ensure pressure straight back to the rear.

After following all of these steps, your grip should fit much better. These steps work from the heel of the hand to the tip of the trigger finger and they should be followed in this order. Do not start the next step until the step you are on is completed. After the grip is all finished, look at your hand in the grip. Your hand should be a pinkish color evenly around your hand. If you see any white spots on your hand, this is where the grip is pinching. This grip area should be opened up to eliminate grip fatigue and pressure spots.

There are many opinions on what the important points of grip making are. Once you fit your grip shoot with it for several months before making any adjustments. The grip is going to feel very strange at first because it is so different from what you are used to. Give it time to see if you really do not like it, it is uncomfortable or you can actually get used to it. Once a grip fits, there is no reason that the grip will not fit your hand for many years, if not your whole life. Remember, do not use fitting grips as a crutch. Fit the grip the best you can and then go back to sight and trigger work. This is just one idea of fitting a grip. These



ideas can be seen on any properly fitted grip. Take your time, be patient, and remember that it might take you a little while to fit your grip correctly if it is your first time.

