Tombstone Gun Grips

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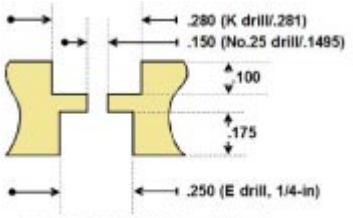
Fitting and Finishing 1911 Pistol Grips (and similar style flat grips)

NEW INFO: I am now using custom made precision step drills to install the screw holes for you, unless you request otherwise. The only time you will now need to do any drilling on 1911 grips is if they are sanded thinner, which reduces the stud hole depth. I try to get them as flat on the back as is needed, but generally leave enough material so you can adjust the thickness if you desire. In most cases, you can just put the grips on your gun. I would suggest sealing them with hard finish car wax and buffing them to set the wax, as this keeps light colored grips from showing stains and dirt.

Earlier info indicated you always had to drill the holes yourself, and that the backs always needed sanding flat, which used to be the case. With the precision gauges and special step drills, it is just as easy for me to do it before shipping, but if you prefer your own work just let me know, and I will leave the holes undrilled. The only grips that may still need hole drilling would be those similar to but not to the same specs as the Colt 1911 government models. Some similar guns like Llamas and compact models may not use the same .250 stud mounting or the same spacing as a standard 1911, but they are so close in other design areas that I send this instruction with them anyway. Just ignore the hole specs if they obviously don't work on your particular gun. What follows is mostly valid for those guns as well.

Tombstone Gun Grips are generally made slightly oversized and usually require drilling holes to match your grip frame. Those grips will require sanding to size, flattening the back while reducing the width and height as needed to fit. and finish work to achieve the degree of polish you may desire on some smooth grips. You can specify that you want NO holes drilled, so you can do it yourself and make it precisely right for your gun, if you wish. Generally we drill a pilot hole on 3.075 centers but let you handle the stud and screw head holes, because these are affected by how thick you want to make the grips.



1911 Grip Hole Specifications

Some grips have a built-in countersink on the outer surface, because they are made using a "master" grip that had such a feature as part of the design. Some hand-carved grips such as the very popular Chinese Dragon were in fact made from a one-of-a-kind hand-made master, long lost. They were not made with CNC machines and lasers, but by the skill of an individual craftsman working with woodcarving knives, gravers, and other hand tools. This is part of their appeal and uniqueness.

Before doing anything else, you will want to determine how thick you want to make the grips. Grips can be made thinner by sanding the flat back of the grips, with a piece of 120 grit abrasive paper taped or glued to a flat board. The abrasive cloth or paper should be at least one and a half times wider and longer than the grips, so you can move them back and forth to sand the back (change to a circular motion every

so often). Gently press down with the palm of your hand while lightly guiding the grip with your finger-tips just barely over the edge (so you don't sand your fingers!).

In nearly all cases the back of the grips will not be entirely flat when you get them, and you will need to remove just a little material to achieve this. You can tell because if you look at the back while tipping it to reflect light, you will probably see a border that is very shiney compared to most of the rest of the area on the back. This is the slightly curved area with mold release agent on it, which gives it the shine. You will want to sand the back at least enough so that it is entirely flat, removing this shiney border. How much further you sand depends on your hand size and the feel you desire for the grips.

The 1911 G.I. Specs call for the grips to be mounted on two 1/4-inch diameter studs, which project 0.175 inches from the surface of the grip frame. The two studs are supposed to be 3.075 inches center to center. Two fillister head screws secure each grip panel (left and right grips). The two screws fit through a 0.150 inch diameter hole in the grips. The inside of the grip must be drilled with a 1/4-inch (Letter E) bit to a depth of 0.175 inches, so the studs will fit into these holes. The outside of the grips must be drilled with a .281 (Letter K) drill to a depth of 0.100 inches for the screw head. This hole can be larger in diameter or deeper, as long as the frame-mounted studs are a good fit into the 1/4-inch holes on the back of the grips.

If the studs fit into a 0.175 inch deep hole, and such a hole is made prior to shipment, then as you sand off the back, the depth of the hole is reduced. The studs will bottom out sooner and the grips will "rock" back and forth on top of the studs. If the holes are made too deep, it doesn’t hurt anything.

If the .280 diameter screw head countersink hole meets the .250 diameter stud hole, the screw head will actually bear on the small difference in diameter (.280 - .250 = .030 inches, divided by 2 = 0.015 inches per side of the screw head). If the .280 hole is too deep compared to the grip thickness, you may be able to tighten the grip screw against the top of the stud without applying any pressure to the grip itself. The grip, in other words, won't fall off but it move in and out a tiny amount and feel "loose" other than the snugness of the studs in their holes. That would be unusual, but you can fix it with a few coils cut from a spring with 1/4 inch ID, put into the hole to act as a spacer washer. This brings the screw head to bear on the spring coils, which press on the grip, and hold it firmly against the frame.

Preparing the Mounting Holes (if they are not already drilled for you):

Sand the back flat. Make the grips the desired thickness.

Drill the 0.150 (No.24 drill = 0.152, No.25 drill = 0.1495) screw hole in one of the stud locations. To mark the drill spot, you can put a bit of "Magic marker" or stamp pad ink on the top of the studs and align the grip with the frame, then press down to mark the back of the grips. The two marks should be 3.075 inches center to center. But if your gun is different, use the gun and not the standard measurement. Compact versions can have far different spacing than the full size G.I. model, and must have different spacing if the grips are shorter. Use a center drill bit to mark the exact center and then drill with the No.25 or No.24 drill. In practice, either drill will probably work fine; No.24 is better. (This step assumes we did not pre-drill the hole for you.)

Measure from the first drill hole to make sure the second mark is 3.075 inches center to center, unless your gun is non-standard in grip hole spacing. Then mark and drill the second hole.

With all of the .150/.152 holes properly spaced over the center of the studs, you now want to counter-bore the 1/4-inch stud holes to a depth of 0.175 inches. If you have a flat-ended, piloted drill or Forstner bit in 1/4-inch, this would be ideal. But you can use a conventional angled tip drill. The important thing is to get the depth just right, so that the studs go all the way to the bottom of the hole just as the grips flatten against the pistol frame. You can measure and mark the bit with a strip of tape, so that as soon as the tape comes even with the surface of the grip, you have drilled deep enough. Or you can nudge the hole deeper by trial and error, measuring with a depth gauge or the end of a dial caliper, or just trying the grip over the stud until the backside of the grip finally touches the gun. Drill all the holes for this fit. If you drill too deeply it won't ruin the grips. It just makes the fit more dependent on the depth of the screw head countersink hole than it would be otherwise.

Now the grips should be a "snap" fit on the gun, with just a bit of effort to secure them without the screws. If the grips won't fit yet, and you can see the small holes are reasonably well aligned with the studs, use a bevel countersink bit to put a funnel shape very lightly around the holes (on the flat side of the grips, of course). If the grips still do not go onto the frame with mild finger pressure, you can put a "Magic marker" mark on top of one stud, put the other stud partly into a grip hole, and then carefully press down to transfer a little ink to the area near the hole that isn't fitting the marked stud. Remove the grip and see which edge of the hole is being marked, then very carefully elongate the hole toward the mark with a round needle file or by gently pushing against a rotating dril bit (this is more risky, so be careful not to take out too much material).

Once the grips can be mounted on the frame (without screws) you are ready to countersink the holes for the screw heads. When the grip is "normal" thickness, or even thicker than normal, there will be a small region where the .150 diameter "pilot" or screw shank hole remains untouched by either counterbore. If you have a thinner than normal grip, or drilled the stud hole too deeply, the standard 0.100 inch screw head hole depth (.280 hole) may intercept the 1/4-inch stud hole. This still works because the grip screw heads will keep the grips from falling off (the 1/4 inch hole won't go over the screw heads). But the attachment is more secure and may even feel "firmer" if the grip is left thick enough to allow a small section that only has the .150 hole. To countersink the screw heads, measure 0.10 inches or just slightly more than the height of the screw head, from the cutting edge of the "K" letter size drill. This is not from the tip, but from the first point where the drill reaches full diameter, next to the tip. Wrap a piece of masking tape around this point to serve as an indicator, and drill from the outer surface of the grips until this "flag" just touches the grip surface.

If the chips coming from the grip obscure your view of the temporary "flag" for depth, you can use a positive drill stop on your drill press, with careful setup. First make sure the grip won't tip or move up or down once you begin drilling. With the drill turned off, run the drill down until the bit just starts into the 0.150 hole in the grip. Mark that position or observe the reading on your drill press depth scale. This is the "zero" meaning the surface of the grip. Notice or mark a point on the drill that will indicate 0.100 inches deeper (closer to the drill table). This is the stopping point. Go ahead and drill all the holes using this depth. Note that you are measuring from the surface at each hole, and NOT from the flat back of the grip! The distance each screw goes into its stud can vary from the others. When you want is sufficient engagement to hold, and a countersunk screw top that is flush or slightly below the grip surface. Grips that vary in thickness at the location of each hole require setting the surface "zero" point for each hole. Only grips that are a consistent thickness from one end to the other, and the same thickness for both grips, can be drilled using the first setup only. To be safer, turn off the drill motor and set the surface zero separately for each hole.

Now you have all the holes drilled and counterbored. The grips should be put on the gun with only minimal finger pressure, and then the screws should bottom out in the holes before they contact the top of the studs. Should your grips be thin enough, or the counter bores deep enough, so that the studs project above the bottom of the .280 screw head counterbore, the grips may be loose even with the screws secured. If that happens, you can return the grips and request that the holes be filled. You can recut the holes yourself, or you can request that we do it for you. Either way there is no charge except shipping costs. If you want us to drill the holes, specify whether to "standard G.I." specs, or include a tracing of your old grips with the hole locations clearly marked on both grip tracings (left and right side). The left and right side may not be the same! (Even the best gunmakers sometimes make a gun that has something out of tolerance, and this won't affect anything if the grip holes compensate for it).

FINISHING YOUR GRIPS

Your 1911 style grips may need some sanding and polishing along the edges and in the circular cut-out areas. This can be done with a couple of standard sandpaper fingernail sticks, one coarse/medium and one medium/fine or fine/extra fine. Usually these flat sticks have two sides with different grit sizes. Hole the stick flat along the edges and gently slide it back and forth to make the edges smooth and straight. Switch to finer grades of grit to get a good finish. Finally you can use 320, 400, and 600 grit abrasive cloth and "crocus cloth" to put a nice shine on the edges if you desire it. Checkered and carved grips normally don't require or benefit from much sanding except along the outer edges. A stiff toothbrush can be used to buff up the carved or checkered area.

Rounded areas at the top of the grips require more careful work to avoid putting flats on the curve. Move the fingernail sanding tool smoothly and follow the arc. Brush off the dust so you get a good view of the surface. On the concave round cutouts along the edge, you can roll up some sandpaper to make a rod or stick with the same diameter as the cutout. Then use this rolled up bit of sandpaper like a file, to polish the curved surface. Be careful not to remove too much material! Use two or three steps of finer grades to get a better finish. Power sanding drums and "Moto-tool" bit are not recommended unless you are removing a lot of material in a hurry (such as cutting out surplus material for slots on the back of a special grip).

Once you have the grips ready to be mounted, and finish sanded and buffed to meet your desires, you can either seal the surface with car wax or clear shoe wax (any good clear, hard finish wax) and buff it to a nice hard finish, or you can use various kinds of stains or acrylic paints as "rubs" to add a patina, natural-looking streaks and grain, or other custom features to the ivory or aged ivory grips. Paints and stains will tend to soak into the unsealed surface slightly, leaving a lighter color when you rub or brush them off. Painting the surface will result in a superficial layer that will rub off, and a penetrating layer that won't come off without actually sanding the surface away. You can experiment on the back side of the grips before trying it on the side that will show.

With BLACK grips, you can achieve different effects by buffing the surface using black paste wax shoe polish! First rub a little on the grips, then buff it back off again. With carved or checkered black grips, you will need to remove the bits of wax in the grooves with a toothbrush (one you don't intend to use for its original purpose again!). This is not as tedious as it might sound. Brush with the checkering in both

directions and angles. Carvings require more attention to direction, brushing out of the crevices toward flats or high points, where extra wax can be removed. The remaining "stain" gives the black grips a deeper, more "hard rubber" look, like original factory grips of the old days.

To achieve a more brownish black, you can use first a brown and then a black wax shoe polish. If you apply the brown around the edges, buff it well, and then apply black in the center and buff it, you can get a shaded effect that is subtle and artistic. Smooth grips can be buffed with muslin wheels on a power buffer, and can be polished with fine polishing grits as well.

Carving, Checkering, and Scrimshaw Work

The polyurethane used to make Tombstone Grips is not "brittle" but has a slightly resiliant quality that makes it easy to do checkering, carving, and scrimshaw work on them. Ivory and aged ivory can be decorated with scrimshaw having black India ink applied to the lines and allowed to "soak in" to the pores before sealing with clear wax. Regular checkering tools used for wood stocks work well with the grips.

You can experiment with Tombstone Grips and create your own masterpiece. If it does not turn out so well, you can usually sand it off and try again, or for the price, you can afford to get a new grip or two until you master the technique. Grips that are incorrectly drilled can be returned to have the holes filled with fresh material (there may be a slight color mismatch, however, since each grip is subject to unique and individual natural aging and color variation). If you will take care of shipping both ways, there is no charge for helping correct a drilling error!

Safety Information

Be sure to wear eye protection when drilling and sanding, and to wear a particle filter mask to keep from breathing the fine sanding particles (dust). The polyurethane itself is an inert material, but any kind of fine dust is not good to breathe, even flour or campfire smoke (regardless of how much of that we may have sniffed as kids, I would be remiss not to point out the safety hazzards of breathing fine particles). If you drill the grips, it is best to use a flat bit (like a standard wood bit) rather than a spiral groove twist bit. If you do use a twist bit, be sure to secure the grip firmly so it won’t be pulled up with the chip and spun out of your hands.

To protect the grips from staining, wash your hands and wipe down your equipment with alcohol or other grease remover before using it on the grips. When you are through with the fitting and finishing, seal the grips with hard car wax (a light coating followed by a brisk brushing to buff the wax and seal the pores in the surface).