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Disclaimer: This article is for entertainment only and is not to be used in lieu of a qualified gunsmith. Please defer all firearms work to a qualified gunsmith. The author assumes no responsibility or liability for the use or misuse of this article. Please note that I am not a professional gunsmith, just a shooting enthusiast and hobbyist, as well as a tinkerer. This article explains work that I performed without the assistance of a qualified gunsmith. Some of the procedures described in this article require special tools and cannot/should not be performed without them. Any loads mentioned in this article are my loads for my gun that I have carefully worked up using established guidelines and velocity and pressure measurement tools.

Warning: Disassembling and tinkering with your firearm may void the warranty. I assume no responsibility for use or misuse of this article. Again, this article is for entertainment purposes only!

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Figure 1: Taurus® PT 24/7

I have a concealed carry permit for the state of North Carolina and I recently purchased a Taurus® 24/7 compact in .45 ACP. After doing a lot of research on the Internet, I found the <u>Armalaser Stingray SR2-635</u> built especially for this sub-compact pistol. A frame-mounted laser provides many advantages, especially in low light conditions, not to mention I am now finding it difficult to focus on the front sight with my tri-focal glasses!

One of the problems with mounting a laser on a gun is finding a holster that fits. Since this will be my primary carry gun I needed a suitable holster for it. Many years ago I read an article in a gun magazine on how to make your own custom leather holsters. That year my wife bought me a leather crafting kit from Tandy Leather and I've been making my own holsters ever since.

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After many years of trial and error, I've developed a holster pattern that works well for me. It is similar to a pancake holster with belt notches so I can wear it outside the pants on my belt, with the addition of two belt loops so I can wear it inside the pants as well.

The process for making a custom leather holster requires the following steps:

- Step 1: Trace the outline of the gun for which I am creating the holster.
- Step 2: Create the holster pattern around the gun tracing, then cut out the pattern.
- Step 3: Trace the pattern onto 8-9 oz. leather, then cut out the pieces.
- Step 4: Prepare and finish the leather. Attach any snaps at this time.
- Step 5: Assemble the holster.
- Step 6: Wet-mold the holster to the gun.
- Step 7: Attach any additional hardware.

Step 1: Trace the Gun

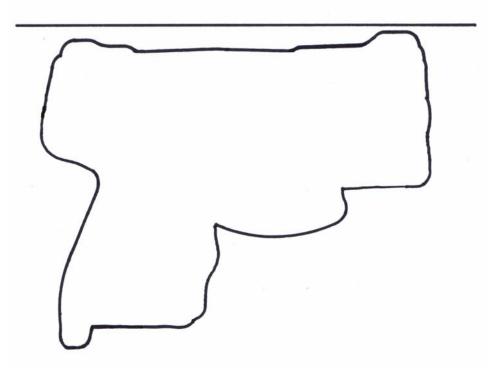


Figure 2: Tracing

First I made sure the gun was unloaded! I folded a piece of paper in half then took a felt pen and traced down the inside of the crease. I laid the top of the gun on that line so center of the rear sight and the front sight were both on that line. I then rolled the gun onto its side and used a felt-tipped pen to trace

around the entire gun. This "rolling" of the gun accommodates any thicknesses due to cylinders on a revolver, etc. If the gun is too large to fit on a sheet of paper, I place the grips outside of the paper. The grips aren't usually covered by leather.

When I first started making holsters, I didn't have a suitable drawing program so I traced the gun on graph paper. The graph paper made it easy to draw the final pattern.

Step 2: Create and Cut Out the Holster Pattern

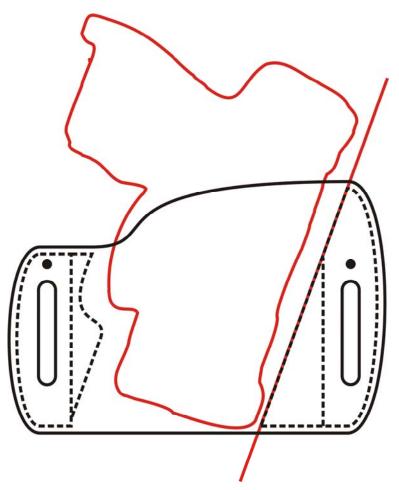


Figure 3: Holster Pattern

I use CorelDRAW® 12 to design all my holster patterns. After the gun was traced I scanned it into my PC and imported it into CorelDRAW®. CorelDRAW® comes with a program called CorelTRACE® which allows me to convert the traced image into a line drawing. Although this step isn't necessary, it makes it easier to manipulate the tracing.

Once the tracing is imported and converted I designed the pattern around it. In the pattern above, the gun is canted forward 23-degrees. For me, this makes it easier to draw and the bottom of the holster doesn't dig into my hip. Also, this gun only comes with extended magazines, so the forward cant helps

prevent the grip from protruding behind me. In other words, the grip sits against my body. I usually use red for the gun and black for the holster to help distinguish between the two.

Typically, a pancake holster is made of two identical halves that are stitched together. The dotted lines in the pattern above show where the holster will be stitched. When I create a pattern for a holster I leave 3/8" to 1/2" around the outline of the gun to accommodate the thickness of both the gun and the leather. Since I am right-handed, and carry my guns on my right side, I always create right-handed patterns. One of the reasons I like using a draw program is because I can get nice smooth curves. My curves weren't very smooth when I drew the patterns by hand; even using graph paper. There are a few things I always watch out for when designing this type of holster; trust me - this is the voice of experience talking:

- 1. I left enough of a gap between the front of the pistol grip and the top edge of the holster so I could get my fingers around the grip. I've made holsters before that looked good on paper, but I couldn't grip the gun because the holster got in the way.
- 2. I also made sure there was no leather covering the point where the trigger guard met the front of the grip. Again, leather here could interfere with my ability to grip and draw the gun.
- 3. My belt should cross the gun at the halfway point, or higher; preferably at the center of gravity (where the loaded gun balances on your finger). Any lower and the gun will have a tendency to tip outward, away from my body. I like to have the gun fit snuggly against my body.

Once the pattern was completed, I printed it out on regular printer paper. Then I cut out the pattern using regular scissors. I used a ruler and a knife to cut the straight edges. Since this pattern will be used for both the left and right halves of the holster, I like to mark the front and back of the pattern for left and right sides. Since my pattern was a right-handed pattern, I put the letter R on the side of the pattern with the lines/printing. I put a letter L on the back or clean side of the pattern.

Step 3: Trace the Pattern onto Leather and Cut Out the Pieces

Leather is sold by ounces; but this refers to the thickness, not the actual weight. One ounce is equivalent to 1/64 of an inch. I like to use 8-9 ounce leather for my holsters which is 8/64" - 9/64" thick. Most commercial holster makers use 5-6 oz. leather because it leaves a nice mold of the gun when wet molded. Unfortunately, holsters made of thinner leather have a tendency to collapse; especially if worn inside the pants. I prefer thicker leather, up to 10 oz., because it holds its shape and won't collapse.

I took a sponge and moistened the smooth side of the leather, then I laid the pattern on the leather and traced around it with a stylus or pencil. I also traced the vertical stitching lines, not the outside or edge stitching lines. These will be cut with a grooving tool later. I never use a pen because the oils from the ink can smear and ruin the holster. Then I flipped the pattern over and again used a pencil to trace the pattern onto a different section of leather.

After tracing the pattern onto the leather, I used a sharp, break-away knife to cut out the pieces. I like to use the dime-store knives with break-away blades that retract into a plastic handle. Leather will dull a knife blade very quickly; the breakaway blades are cheap, and by breaking off the dull segment, a new, sharp segment is exposed.

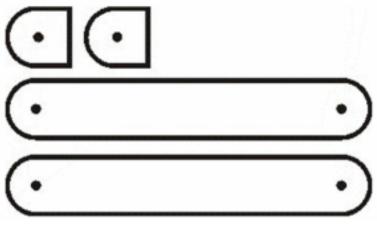


Figure 4: Additional Pieces

Since I planned to wear this holster inside the pants, I needed 4 additional pieces; 2 straps 4 3/4" x 3/4" and two spacers, 1/2" x 3/4". I cut these from 7 oz. leather. The straps are the belt loops and the spacers leave space for my pants material between the belt loops and the holster.

Step 4: Prepare and Finish the Leather



Figure 5: Grooving Tool



Figure 6: Cutting Stitching Groove



Figure 7: Grooving Completed

Next I cut a stitching groove around the edge of the leather. The leather should be dry for this step. This groove allows the stitching to sit flush or below the surface of the leather so it won't wear. The tool shown above is set to cut the groove 1/8" in from the edge. I then took a straight grooving tool and cut the stitching grooves in the middle of the leather.



Figure 8: Beveling Tool



Figure 9: Edge Slicker



Figure 10: Beveling Edge

I then removed the sharp edges of the leather with a beveling tool. I beveled all around the outside (smooth) edge of both pieces. I beveled the inside (rough) edges only where the two pieces would not be touching. After beveling I took a wet sponge and moistened the edges only where the gun would sit, not where the pieces of leather would be touching, and used a slicker tool to slick and round those edges. I also beveled and slicked completely around both sides of each belt loop, but I did not bevel the edges of the spacers.



Figure 11: Dying the Leather

Now it's time to finish the leather. I prefer an oil-based dye such as Fiebing's Pro-Oil Dye available from Tandy Leather Factory. I applied the dye first to the edges, then evenly over the front and back surfaces until the dye sat liquid on the surface and the leather absorbed the dye very slowly. I finished both holster pieces, the straps and spacers and set them up on edge to dry. I usually let them dry over night.

After the pieces were completely dry I applied the leather finish. I use Fiebing's Leather Balm with Atom Wax; a combination of wax and oil, also available from Tandy Leather Factory. This finish does darken the color of the leather so I have to make sure I apply it evenly, it will leave unsightly streaks. I applied the finish to both sides, then after the finish dried, I buffed the leather with a soft cloth. This made a soft, lustrous finish. I finished all the pieces in this manner.

Step 5: Assemble and Stitch the Holster



Figure 12: Glue Applied

Now it's time to assemble the holster. Pancake holsters are simple to assemble. I applied leather glue to the inside areas of the two holster halves that would be touching, i.e. inside of the stitch lines. Leather glue is a type of contact cement so I had to wait for the glue to dry. After the glue dried, I pressed the two halves together making sure the edges were even.

I have a \$1,500 leather sewing machine that I use to stitch my projects. But for years I stitched my projects by hand. Hand stitching is easy; here's a simple method:



Figure 13: Overstitch Wheel

- 1. I run a #5 overstitch wheel in the groove I want to stitch. The overstitch wheel has evenly spaced teeth that leave marks where the stitches should go.
- 2. I use a high speed rotary tool running at a moderate speed with a 1/16" bit and drill a hole everyplace the overstitch wheel left a mark.
- 3. I use two needles and waxed thread to saddle-stitch the seam.



Figure 14: Stitching Complete

Saddle stitching is very strong and involves running two threaded needles through each hole, one from the front and one from the back. I start at one hole and run half of the thread through that hole. I use a piece of scrap leather to push the needle through the hole, then a pair of pliers to finish pulling the needle through. For the next hole I run the front needle through from the front, then the back needle

through the same hole from the back. I then pull the loose ends tight. When I reach the end of the stitching, I then stitch back 3 holes, then cut off the leftover thread. This locks the stitching so it will not come apart.



Figure 15: Cutting Belt Notches

With the holster still flat I cut the belt notches. I used a 3/8" round punch to punch each end of the notch, then used my knife to cut between the outside edges of the holes. Once the center is removed I used my beveling tool to bevel the sharp edges. I also punched a small hole above each notch to accommodate the screw to attach the belt loop.

Finally, I used my high speed rotary tool with a fine sanding drum set at a low RPM and went over every stitched seam to make them smooth and even. This sanding process makes a lot of leather dust so I always wear goggles and a mask to prevent the dust from entering my eyes or lungs. After sanding the seams I again beveled the edges with the beveling tool to ensure there were no sharp edges.

Step 6: Wet Mold the Holster to the Gun

First I placed the gun into a plastic bag. Usually, a gallon freezer bag works well. Then I half filled a sink with water and immersed the holster. With the holster completely immersed I worked it with my hands until it became soft and pliable. This only took about 30 seconds.



Figure 16: Wet Molding the Holster (shown from the left side)

I removed the holster from the water and inserted the plastic-wrapped gun as far as it would go. I took my fingers and molded the leather to the shape of the gun. Once I got the leather molded I left the gun in the holster until the outside was dry, then removed the gun to allow the inside to dry. It was interesting to note that while the holster was wet it would activate the laser. Once the holster was dry, however, I could insert and remove the gun without activating the laser.

This wet-molding process not only molds the holster to the shape of the gun, but it also causes the leather to become stiff which helps to prevent it from collapsing when I wear it inside my pants.

After the holster was dry I applied another coat of leather finish, then applied a dark brown edge dressing to the edges, including the inside of the belt notches. This provides protection to the edges and gives the holster a professional look.

Step 7: Attach Hardware



Figure 17: Hardware and Straps

Although not shown in the photos, I also finished the straps and spacers in the same manner. After they were dry and buffed I attached large chrome snaps to the straps. I ran a #6 screw through the bottom of the snap set, through one end of the strap, through the spacer, then through the small hole I punched in above the belt notch in the holster. The holes in the snaps are just large enough to accept a #6 screw. I used a #6 nut to attach the screw to the back of the leather.



Figure 18: Completed Holster

The holster is now complete, and because of the wet molding process, the gun fits perfectly. The belt notches allow me to wear the holster on my belt outside of the pants, and the belt loops allow me to wear it inside the pants for deep concealability. Finding a commercially-made holster that will accommodate a laser is virtually impossible, but I can always make one that will always be a perfect fit and will meet my needs perfectly.