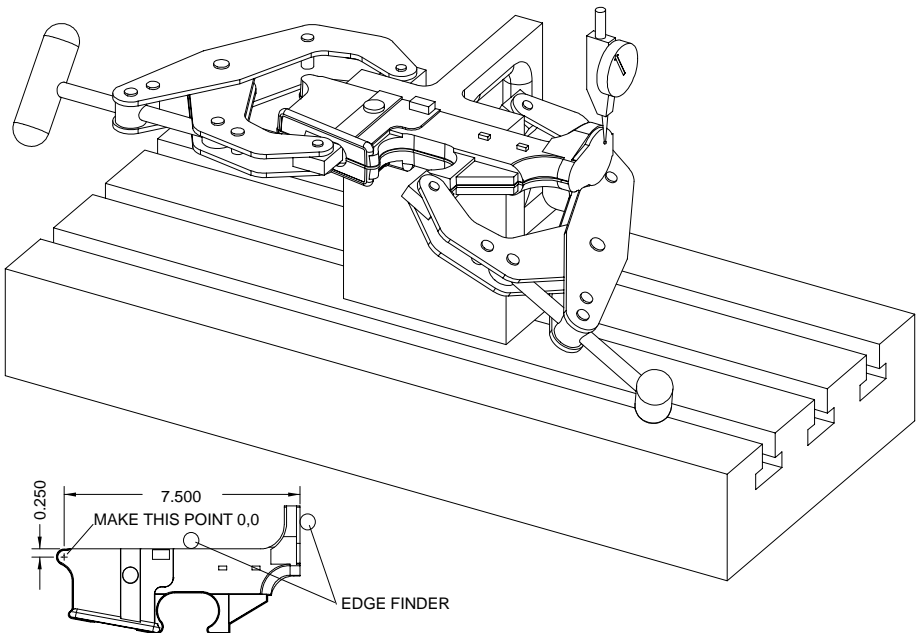


# Chapter 3

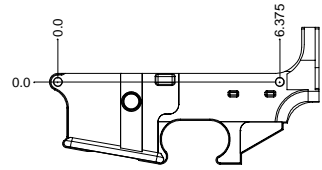
## Holes

In this setup you will be putting in the pivot pin hole, take-down pin hole, trigger and hammer holes, safety hole, magazine release hole, bolt release hole and rear trigger guard hole. Also, the safety stops will be milled along with the magazine release pocket, the bolt release pocket and one side of the pistol grip mount.

**Workholding:** Put a sturdy angle plate on the mill table and indicate it true to the x axis. To the plate you will clamp the forging for drilling pin holes etc. Make sure the surface with the two safety stop bumps is about 1/32 above the top of the angle plate. Using the quill, indicate the machined surface on the end of the forging as show below and clamp tightly.



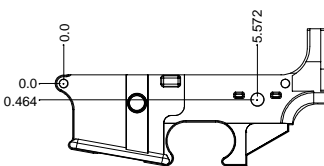
**Location:** Pick up the surface just indicated (butt face) with an edge finder and then the face of the forging that is against the angle plate (deck). Move to the location of the pivot pin (7.500X -.250Y) and zero your DRO. Refer to the drawing “DRIVER SIDE” in the appendix for dimensions for this setup.



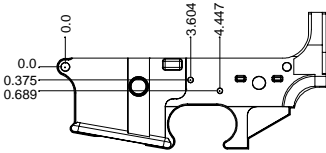
Drill and ream .251 dia. the pivot pin hole through at 0.000-0.000. Now do the same for the take-down pin hole at 6.375-0.000.



When doing this kind of work it is a wise move to just touch the work with the center drill and then lay your scale on it just to make sure you are in the right place.

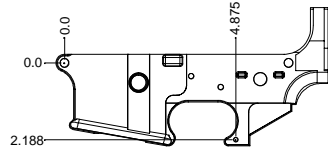


Next is the hole for the safety selector. Drill and ream 0.376 dia through at 5.572-0.464.

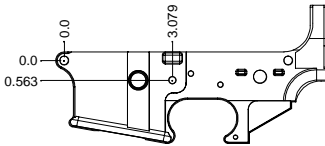


Drill and ream the trigger hole 5/32 (0.156) dia. through at 4.447-0.689. Do the same for the hammer hole at 3.604-0.375.

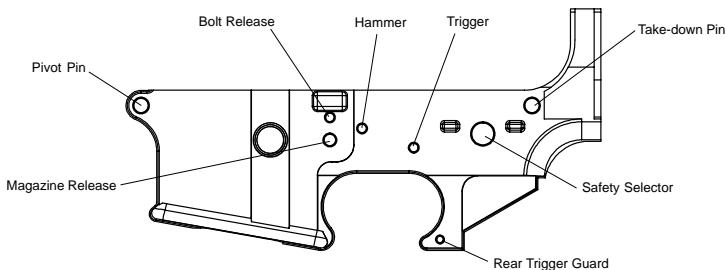
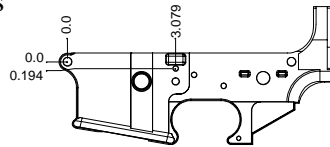
Next, drill the rear trigger guard hole. It is .125 dia. through at 4.875-2.188. Do not drill the forward trigger guard hole from this side. It is only on the other side.



Next is the magazine release hole. Move to 3.079-0.563. Drill through with a #5 drill (0.205" diameter).

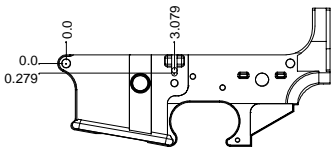


The next hole does not go through. It is for the spring that keeps the bolt release down. You will probably have to spot face here to get a flat spot for the drill to start. Drill 5/32 dia. at 3.079-0.194 to 1/32 past the centerline.

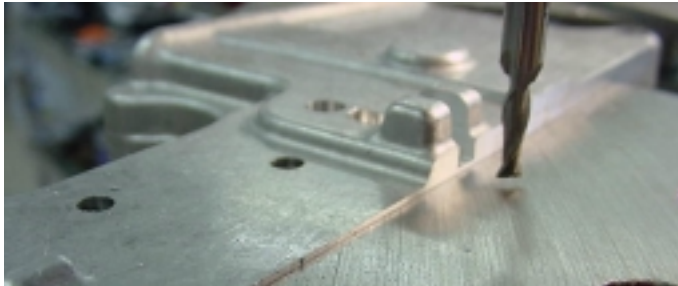


That concludes the drilling portion for this setup. Check your work against the drawing above and be sure you have all eight holes.

Now we will do a little milling. Since we are in the neighborhood of the bolt release we will mill the side portion of that groove first. Mount up a 5/32 end mill and set it to stop on the safety bump surface as show below. This is as far down as you need to cut the groove.

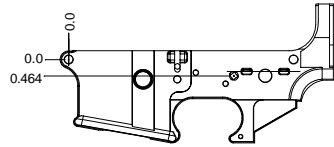


Crank the table down, locate the spindle at 3.079 and mill the bolt release groove to 0.279 to the depth set above.



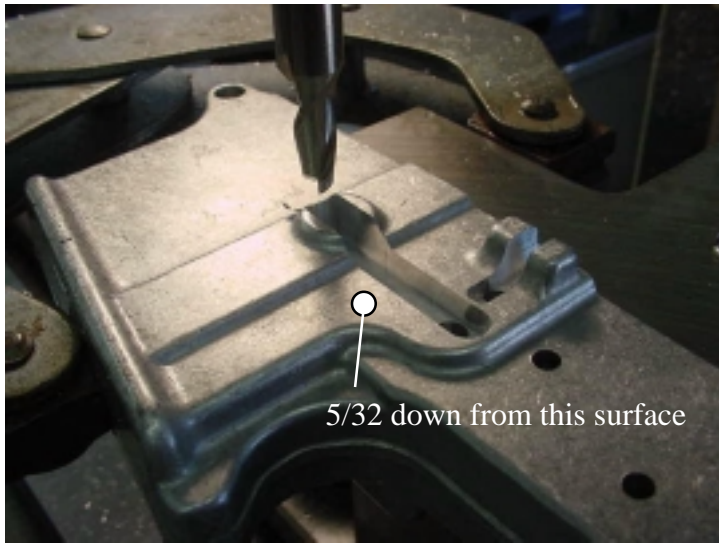
This is why that surface needs to be about 1/32 above the top of the angle plate.

Now we will do the safety stops. Chuck a 1/4 dia. cutter and put the spindle on the Y axis of the safety hole, 0.464. Using a piece of plain paper, about .004" thick, for feeler gauge, set the depth of your cutter to be 0.004" above the surface. On this setting mill off the lower half of the safety bumps.

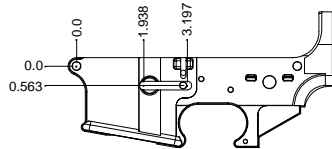


When you have this done, go ahead and drop the safety in and check the fit. You have two minutes to stop smiling and get on to the next step.

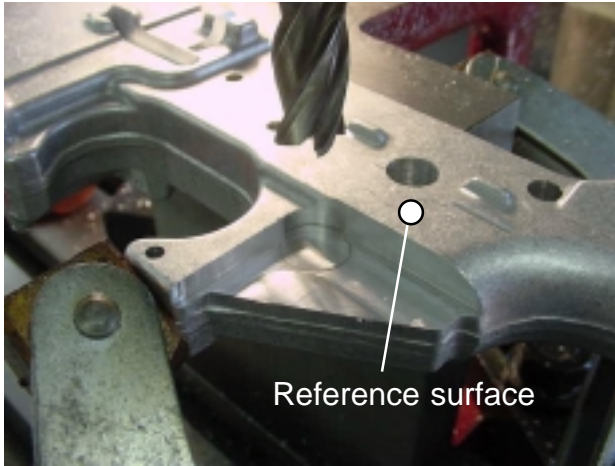




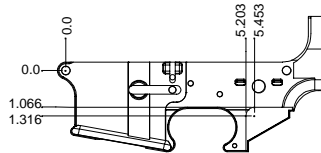
The magazine release lays in a slot you will mill using the same 1/4 inch cutter. The depth of this cut is 5/32 from the surface. The coordinates are 1.938-0.563 to 3.197-0.563.



Go ahead, drop the magazine release in place. It should be close to flush with the reference surface. When you stop smiling, we can get going with the pistol-grip pocket.



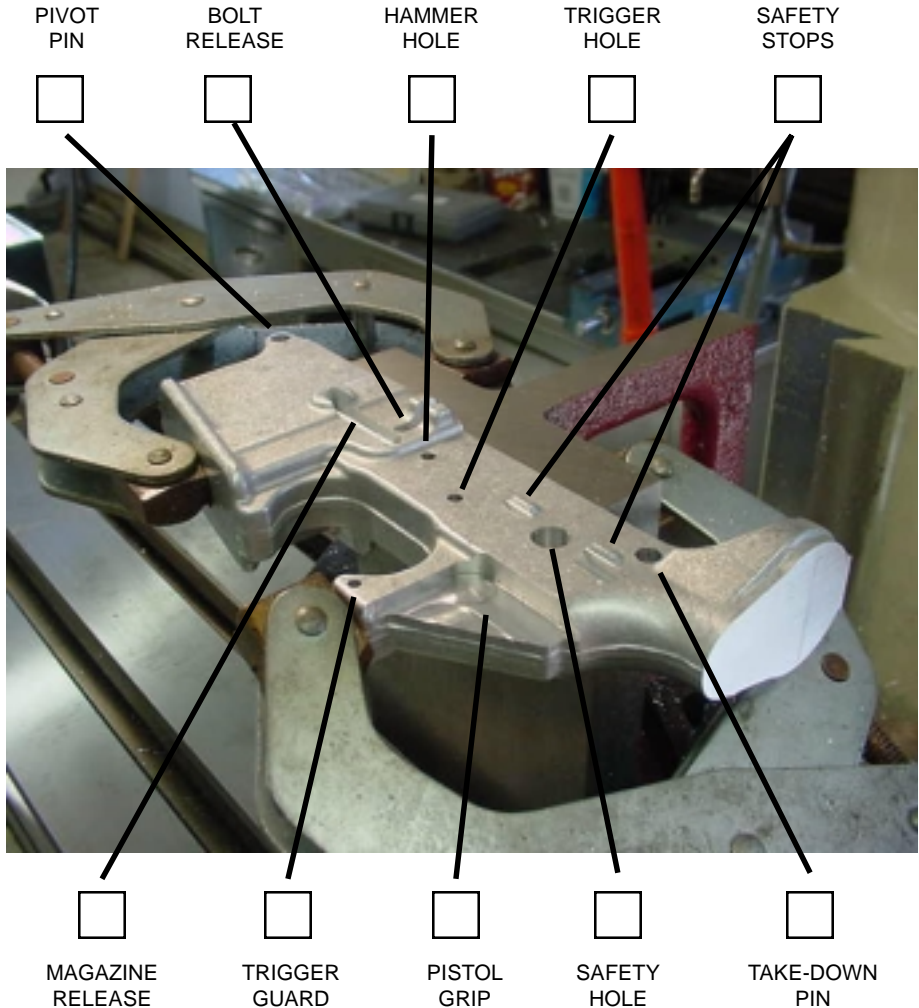
Chuck a 1/2" dia. cutter and touch off on the reference surface. My forging is 0.864 thick at this point so it will be 0.432 to the centerline. The face of the grip pad is 3/16 up from the centerline so we need to subtract .1875 from .432 which gives .244 inches down from the reference surface to the bottom of the cut. You will need to make your own calculations based on the thickness of your particular forging.



You can set your incremental zero at 5.453-1.316 which is the corner of the pocket. Stay away by five or ten thousandths as you rough down to within 0.005" of the finished depth. Then set your finished depth and mill the sides and bottom finished in one pass. Be careful not to run into your clamp!

# Check List

Before breaking the setup, double check that all the operations for this setup have been completed.



A good habit to get into is this. When you think you are finished, clean off the machine of chips and tools etc. instead of rushing to remove your work-piece. This gives you some time to think about it. Nothing is as frustrating as having to re-setup something because you missed a hole.