

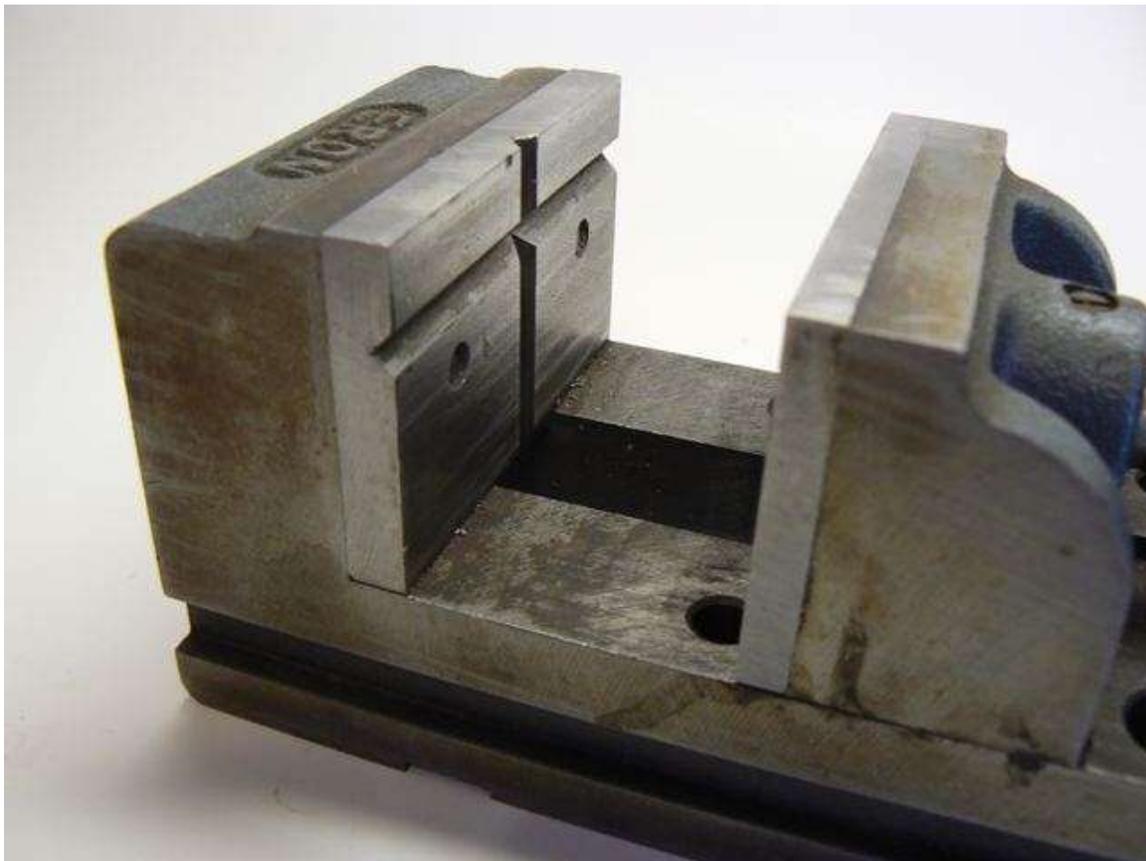
## Tuning the Uberti Open Top Revolvers

By

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### Part 4

When we finished part 3, we had marked and punched the center of our Uberti open top arbor. We are now ready to install and fit the Dillon #3 locator button and make our open tops ready for competition. This modification is the single most important thing that can be done to an open top for long-term longevity. WAY back in Part 1, Photo 11, a typical drill press vise was shown. Also in Part 1, Photo 21, the relationship between various angles on our open top frames was shown. To install the locator button in the arbor we need to be concerned with the “Y” dimensions in Photo 21. On most drill press vises the bottom of the vise is perpendicular to the jaws of the vise, Photo 69,



Photo

69

and will maintain our “Y” dimension. On this particular drill press vise the frame was simply inserted and the bottom of the frame firmly pressed down on the bottom of the vise while the jaws were being slowly tightened. Photo 70.

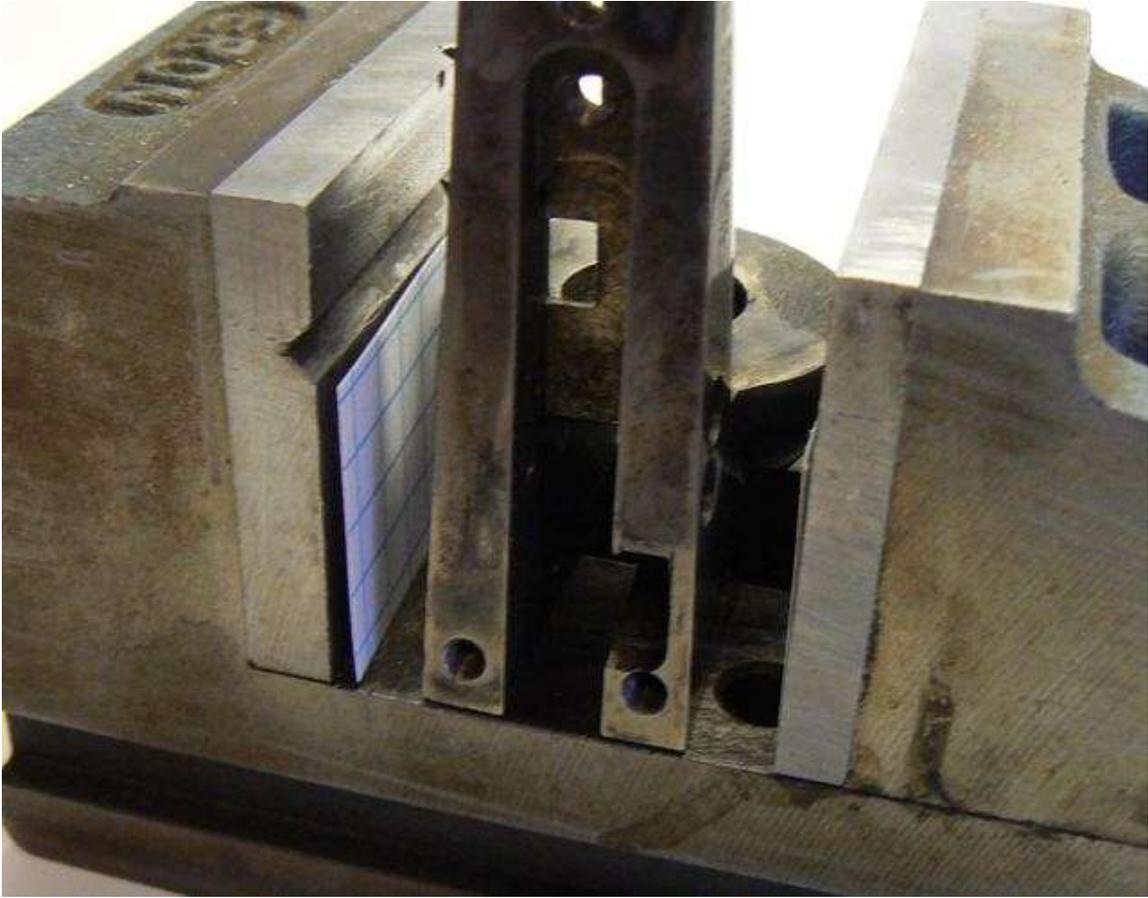


Photo 70

Remember, we are not out to crush the frame, simply to hold it tight enough for drilling.

Put a number 28 drill into your drill press chuck and put the vise under the drill. With the drill press NOT running, slowly lower the drill bit until it hits the center punch mark and look for any deflection of the drill bit. Move the vise until when the bit hits the center punch mark it is dead center and there is no deflection of the tip of the bit. Photo 71.



Photo 71

Drill the tip of the arbor right through into the wedge slot. Where the shank of the locator button joints the head of the button there is a small radius. This radius could prevent the locator button from seating squarely on the top of the arbor. So, without moving the vise, change the drill bit to a number 1 bit and just lightly kiss the top of the hole you just drilled. Photo 72.



Photo 72

This will make a chamfer for the button to fit into. Photo 73.



Photo 73

Take your locator button and drop it into the hole. Photo 74.



Photo 74

If all went well it should drop right in and sit flush on top of the arbor. Photo 75.



Photo 75

Yes, the shank of the locator button is sticking into the wedge slot. Photo 76.



Photo 76

At this point, don't worry about it or try to shorten the shank. We need that extra length for the next operation.

Now comes the part where you get to do some machining and actually use your Dremel and not ruin your gun! Install the barrel on the arbor at a 90-degree angle and rotate it down to the frame. The barrel is now in FRONT of the frame, Photo 77,

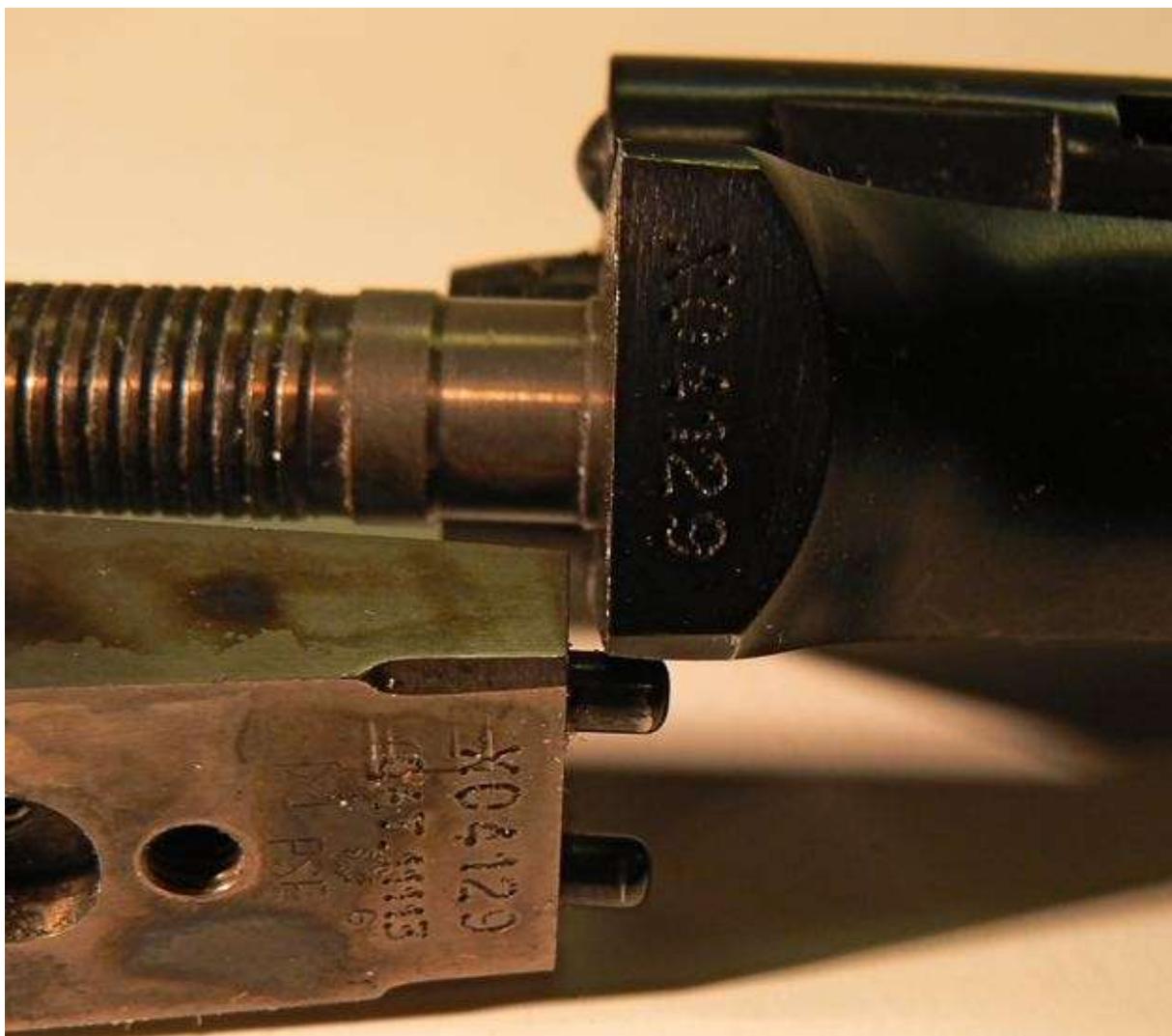


Photo 77

instead of behind it, Photo 45. Take your electric drill, (yeah, I know it's actually a 'drill motor', but this article is for the average guy and average guys just call them drills) put it into a vise pointing up. GENTLY tighten the vise just enough so that the drill won't fall out of the vise. If you tighten it to much you'll get to see if Home Depot will really honor that money back guarantee! (If you don't have a bench vise but have an extremely strong and patient neighbor, he may be able to hold the drill for the next operation.) Now go get your Dremel and put a sanding drum in it. Put the locator button in the drill chuck and turn on the drill. Now take your Dremel, turn it on, and gently start machining the head of the locator button to make it thinner. Photo 78.



Photo 78

The two rotating devices will ensure that the button is machined evenly. After you have thinned the button a bit, remove it and check to see how close the barrel is getting to the frame. In Photo 79, we are about halfway done.



Photo 79

On some guns, depending on how far off the arbor was when it was originally fit; the head of the button is going to get fairly thin and might bend if you press to hard with the Dremel. To help prevent this, if the head is starting to get very thin, put a steel washer under the button head to help support it. Photo 80.



Photo 80

Keep grinding and checking the fit until when you rotate the barrel down it mates flush with the frame. Photo 81.



Photo 81

Next, put in the cylinder and mount the barrel to do a preliminary check for cylinder gap, on the cap and ball guns, or cylinder gap and end shake, for the 72's and conversions (which have cylinder bushings). Part 1, Photo 4. On the 72 in Photo 82, the end shake and cylinder gap appeared about perfect.



Photo 82

You can also see the shank of the locator button sticking into the wedge slot in Photo 82. This now has to be shortened so we can move on to the final fitting. Put a cut off wheel in your Dremel and cut off part of the shank. Photo 83.



Photo 83

Try it in the arbor and then grind a little material off at a time, Photo 84,



Photo 84

until when the button is seated in the arbor it no longer protrudes into the wedge slot. Photo 85.



Photo 85

Now comes the moment of truth. Put in the wedge and, hopefully, everything will be properly aligned. In Photo 86 the wedge goes in just a little past the bottom of the wedge slot and our retaining screw will fit in with no problem.



Photo 86

This 72's arbor, barrel, and cylinder all wound up fitting perfect so this particular gun is finished.

Guns have tolerances, however, and sometimes the wedge might not go into the wedge slot far enough, or the cylinder gap is too big, or there is too much end shake, etc. Sometimes the button head may have to be thinned to allow the barrel sit just slightly behind the frame. This will allow the wedge to tilt the barrel back just a little to adjust the cylinder gap and end shake. On the conversions and 72s, if the cylinder binds or drags and there is a gap between the cylinder bushing and the barrel, then some material may have to be removed from the back of the forcing cone area of the barrel. In other words, in Photo 82 if the barrel is contacting the cylinder at "A" and there is a gap at "B" it might be necessary to remove a little material from the back of the barrel at "A." The object of the button adjustment is to ensure the cylinder gap is established and maintained by the cylinder bushing contacting the barrel around the arbor hole so that once the wedge is inserted, the cylinder gap can no longer change. We don't want the cylinder face dragging on the back of the barrel.

The cap and ball guns are different because they have no cylinder bushing. With the hammer at half cock pull the cylinder to the rear. You should have a gap between the barrel and the cylinder. Photo 87.



Photo 87

When the gun is brought to full cock, the hand will push the cylinder forward until it contacts the back of the barrel. Photo 88.



Photo 88

If the gap is too large, over .010" or so, thin the button until when the wedge is inserted the gap is reduced. If there is no gap or it is very small (below .004) then some material may have to be removed from the back of the barrel. The object of the button adjustment on the cap and ball guns is to have a gap at halfcock that will not change when the wedge is inserted. With a properly set gap, as fouling builds on the cylinder face, the cylinder will be pushed slightly to the rear by the fouling buildup but still have enough gap to turn freely.

Remember on all of these adjustments DON'T remove any material from the gun parts until you have exhausted all attempts to adjust the barrel, arbor, cylinder fit by making adjustments to the button. What is nice about the button adjustment is that if you make a mistake, you are only out a dollar and can simply make another one. Once everything is set and gapped properly you can put the button back in the drill and lightly polish the dull surface left by the Dremel. Photo 89.



Photo 89

This is entirely optional and is only cosmetic. But, since you will want to show all your friends your work you do want it to look nice, right? After final fitting and polishing put some loctite on the button shank and seat it in the arbor hole. You don't want it falling out and don't want to mix it up with one from another gun, as each button will be custom fit to each gun to make up for individual arbor variances.

One side benefit from the 2<sup>nd</sup> Gen Colt's perforated arbor hole shown in Photos 51 and 52 is that the results of our work can be seen. In Photos 90 and 91 the brass button can be clearly seen bumped up against the end of the arbor hole.



Photo 90



Photo 91

Now that this gap has been filled, your wedge can do its job and properly seat the barrel to the frame. Your cylinder gap won't vary and you will have years of trouble free shooting. If

anything ever changes (you change barrels or cylinders, etc), heat the arbor, pull out the button, and simply start over.